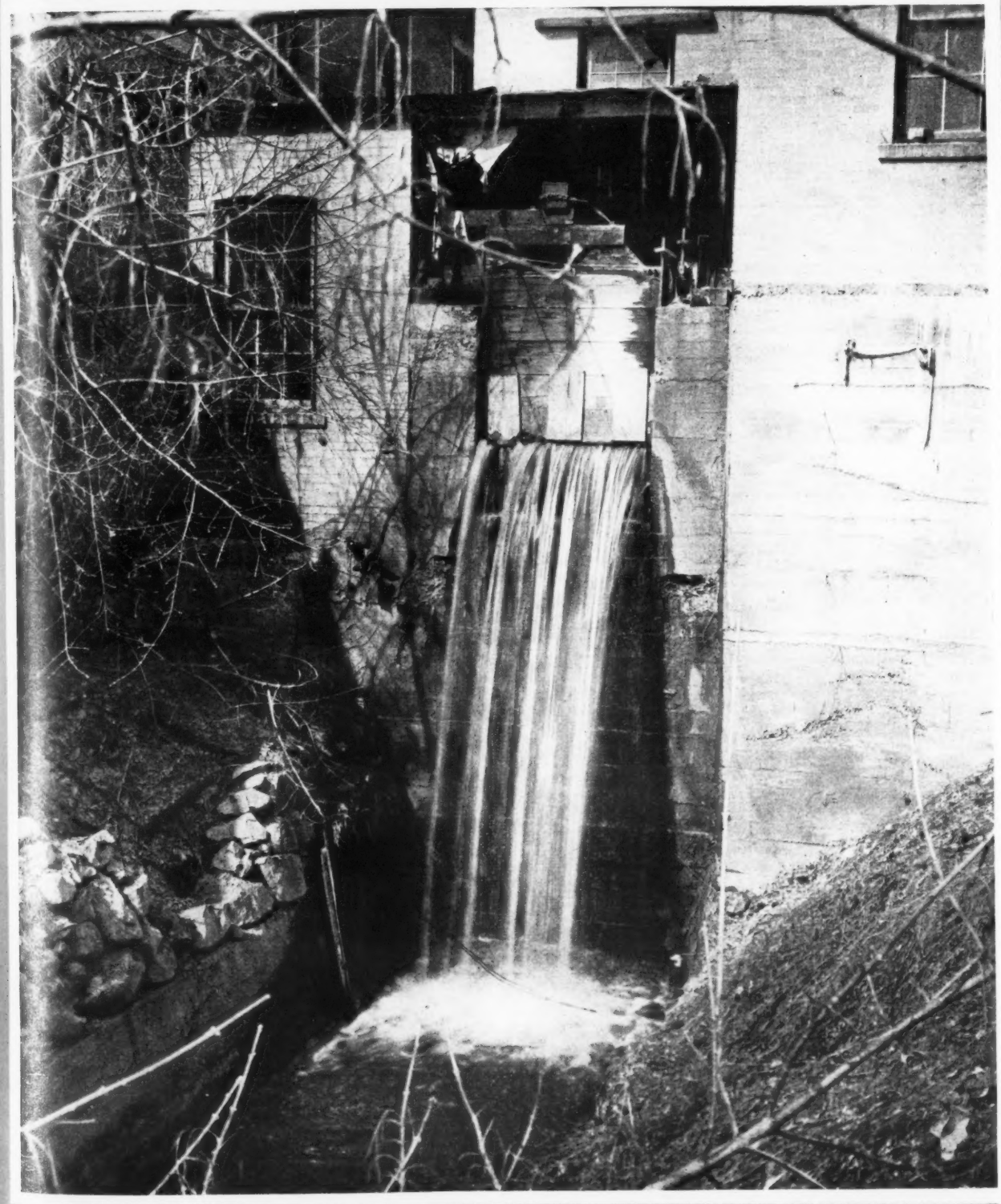
The·Northwestern·Miller

MILLING PRODUCTION SECTION

MAY 9, 1945

IN TWO SECTIONS—SECTION TWO



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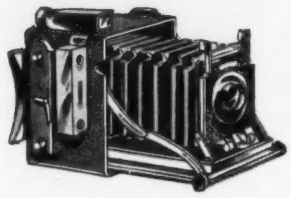
Volume 222 • Number 6

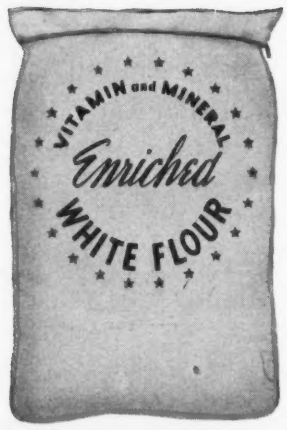
Good...



Better!

A great staple in the American diet

Good...



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Crop Production and Soil Conservation

By A. E. McClymonds

Regional Conservator, Soil Conservation Service

WHEN World War II became an actuality to the United States on Dec. 7, 1941, the farmers of the United States for a number of years had been producing surpluses of food and fiber. But with the opening of hostilities and the realization by the government—particularly the Department of Agriculture—that food is one of the important weapons of this war, farmers were given the go-ahead sign. It is not necessary here to quote statistics showing what they accomplished in the years of 1942, 1943 and 1944. Their accomplishments have been beyond the reasonable expectations of all people with a true understanding of agriculture, for with less machinery and less help, each year, they increased production.

Wheat is one of the important food products for war. And 68% of the wheat produced in the United States in 1943, the latest figures available, was raised in the 10 Great Plains states of North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Texas, Montana, Wyoming, Colorado and New Mexico. That 68% of the nation's wheat was grown in the Great Plains transition area, between the well-watered Mississippi-Ohio Valley cornbelt and the mountainous and semi-desert lands of the west. This area is a land of widely varying climatic conditions. It has long, hot, dry summers, and long, cold, dry winters. It has years of pleasing climatic conditions with sufficient moisture, and years of hot, dry, growing seasons.

Climate is the dominant factor in the development of the region's agricultural resources. The amount, intensity, frequency, and distribution of the rainfall all influence the degree of replenishment of soil moisture, ground water, and surface water generally. The hard, beating rains which occur at intervals often do more damage than good. Large quantities of water fall then in a short space of time, but this type of rainfall seldom wets the soil to any great depths. Most of it is lost in destructive run-off. The snowfall in the northern parts of the region is often lost by the occurrence of chinooks, causing the snow to melt and run off while the ground is still frozen.

The annual rainfall in the Great Plains region is variable, but there is some evidence that the variations of high and low rainfall occur at certain definite periods.

The plains country is not a land of despair, as some writers picture it. The farmers and ranchers have learned that they must live with nature and not fight against it. The areas where nature built good soil and makes sufficient moisture available are adapted to crop production. These lands that are adapted to wheat and cash crops should be continued in those crops. The lands that are adapted to grass must be left in grass or put back into grass as soon as possible.

That is the soil conservation program for the Great Plains—use each acre of land for what it is best adapted.

The settlers are a hardy crew, they do not give up easily, and are developing their own Great Plains way of life. North Dakota can be used as an illustration of this, although any other state would do as well.

In spite of handicaps, the state in 1943 produced 154,000,000 bus of wheat, 25,000,000 bus of corn, 65,000,000 bus of barley, 72,000,000 bus of oats, and 22,000,000 bus of potatoes, to say nothing of a huge crop of flax. North Dakota also produced 500,000 head of cattle, more than 1,000,000 hogs, nearly 1,000,000 sheep, 8,000,000 lbs of wool, 10,000,000 chickens, and more than 50,000,000 lbs of butterfat, also 50,000,000 dozen eggs. When the climate cooperates, the plains states produce abundantly. With soil conservation practices, they are co-operating with nature.

Last year, 1944, North Dakota was shorthanded and nearly 10 years behind in replacement of farm machinery, and war had made replacements impossible. With good crops in sight, the North Dakota plan was again put into force. Doctors, lawyers, merchants, students, professors, state and federal workers, the butcher, the baker, the candlestick maker all pitched in, during their spare time, working in the fields, to make up for the lack of machines. Whole towns would be deserted with signs on the door, "Gone to the harvest fields."

Nowadays, the farmers are learning to preserve the top soil, letting the straw and cornstalks protect the soil by rotting on the surface as under natural conditions, instead of plowing them under. They use the disk or blade to till the soil instead of turning it under, so providing a protective mulch to slow up and soak up the rain and prevent the wind from blowing soil away. They are planting windbreaks and laying out their fields so as to hold all the rain that falls. The new grasses, such as crested wheatgrass, are proving a real boon to land conversion oppor-

Growth of the Soil Conservation Service

RECOGNITION of the need for soil conservation dates back in United States history to the earliest days. George Washington, Thomas Jefferson, Patrick Henry and others called attention consistently in their writings and public statements to the dangers of continued soil washing. But little was done by the rank and file of farmers.

First experimental work to determine the facts about soil erosion and water loss from farm land was at the University of Missouri in 1916 when Dr. F. L. Duley and M. F. Miller installed the first plots at the Missouri Agricultural Experiment Station.

Similar experimental plots were established at Raleigh, N. C., in 1919 and at Spur, Texas, in 1926. In 1926, H. H. Bennett was charged with the responsibility of conducting more extensive studies in soil erosion control.

On Feb. 26, 1929, President Calvin Coolidge approved an act providing for the establishment of Soil Erosion Experiment Stations and Congress appropriated $160,000 for this purpose.

The Soil Erosion Service was established in the Department of the Interior on Sept. 19, 1933. After 18 months in the Department of the Interior, the Soil Erosion Service on March 25, 1935, was transferred to the Department of Agriculture.

On April 27, 1935, President Roosevelt approved the Soil Conservation Act, Public 46, which established in the Department of Agriculture a "Soil Conservation Service" for the development and prosecution of a long-time program of soil and water conservation.

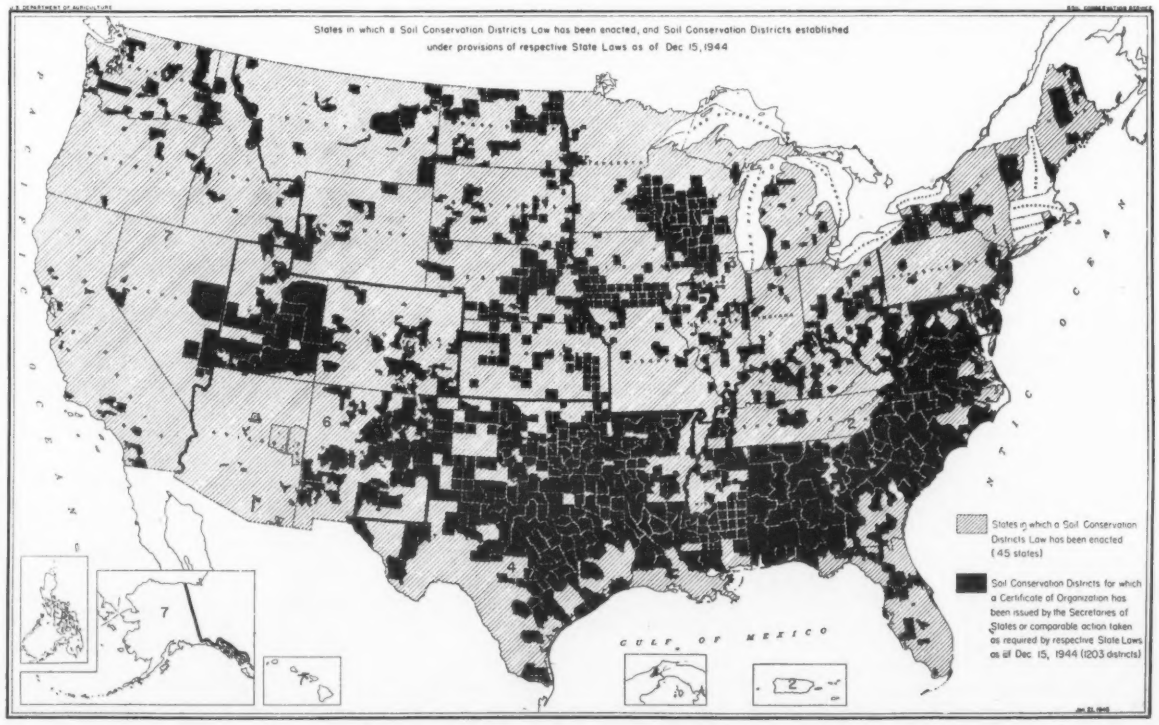
In October, 1935, the Soil Conservation Service was operating 141 demonstration areas in 41 states, directing the work of some 522 CCC camps and conducting erosion control studies at 43 co-operative experimental stations and research projects.

Early in 1937 Arkansas passed the first State Soil Conservation District Law. Others followed rapidly.

As of Feb. 15, 1945, a total of 1,237 Soil Conservation Districts, covering approximately 686,157,284 acres, had been established in 45 states which have enacted a Soil Conservation Districts Law. These districts include approximately 2,624,498 operating units and 3,197,804 farms.

In addition, the department has entered into memoranda of understanding with 18 grass conservation districts (Montana), including approximately 6,613,136 acres and 1,934 operators.

Objectives of the Soil Conservation Service, in co-operation with Soil Conservation Districts, are to help farmers and ranchers establish permanency in operations through conserving their soil and water resources and adjustments to achieve better use of land and water.


States in which a Soil Conservation Districts Law has been enacted, and Soil Conservation Districts established under provisions of respective State Laws as of Dec 15, 1944
States in which a Soil Conservation Districts Law has been enacted (45 states)
Soil Conservation Districts for which a Certificate of Organization has been issued by the Secretaries of States or comparable action taken as required by respective State Laws as of Dec 15, 1944 (1203 districts)
GULF OF MEXICO

The number and extent of Soil Conservation Districts in the United States at the present time

Buffer strips of grass help to control erosion on steep slopes in the corn belt.

tunities for farmers and ranchers alike from Canada to the high plains of Texas. According to R. I. Throckmorton, head of the agronomy department, Kansas State College, in his Great Plains Report of August, 1944, there were 7,000,000 acres returned to grass throughout the Great Plains in the last 11 years.

The history of settlement of the Great Plains is a record, written on the land, of how man has attempted to impose a humid type of agriculture on a transition area of limited rainfall. It succeeded so long as moisture conditions were normal or above normal and so long as the soil contained large quantities of humus. In this area in 1943, 571,535,000 bus of wheat were raised. This was done without increasing cultivated crop acreages to any appreciable degree. In fact, recent surveys indicate less poor land has been broken out and put into civilization than has been retired to grass since Pearl Harbor.

During the period 1909 to 1924—just before, during, and after World War I — Great Plains operators brought more than 17,000,000 additional acres into wheat production. Patriotic reasons, as well as rumors that 50,000,000 acres of European farm lands were taken out of cultivation, not considering those in Russia, impelled this increase. By 1928, the Great Plains cultivated area had increased 20,000,000 acres of the Nation's total increase of 40,000,000 acres. Many millions of these acres were not adapted to farming. The land was either too light, had too steep slopes, or was in areas of too little rainfall.

Not all of these acres were in the dry plains, of course, but 20,000,000 acres were broken out on the grassy hilltops and steep hillsides of the more humid areas. They were plowed, farmed, became gullied, and were abandoned within a very short time. As a result of this so-called plow-up of Great Plains grass lands, and the steep hillsides and grassy hilltops of eastern farms, erosion had its day. The dry years of the early '30's, coupled with low prices, brought about abandonment of millions of acres of cultivated fields.

The Great Plains area is important to the economy of this whole nation for more than one crop. Actually, the statistics for the 10 plains states in round figures are 37% of the land area of the United States, 40% of the nation's crop lands, 8,825,000 acres or 42% of the irrigated lands. To recite other important crops in addition to wheat, we find that 187,154,000 bus of barley are raised in the same states. Fifty-two percent or 27,090,000 bus of the nation's flaxseed crop in 1943 was raised in the Great Plains. In 1943, the Great Plains produced 18,865,000 bus of rye, out of a total of 30,781,000 bus in the 35 rye-producing states. On Jan. 1, 1944, 56% of all lambs on feed were in pens in the Great Plains for a total of 3,318,000, as against 5,941,000 for the entire United States. In 1943, Montana, Wyoming, Colorado, and Nebraska produced 3,042,000 tons of sugar beets, 47% of the total. Approximately 35% of all the cattle in the United States are maintained on the Great Plains, and there are 28,193,000 of the 51,718,000 head of sheep found on the plains in addition to the oil, coal, gas, gold and a number of other minerals which are available east of the Rocky Mountains and west of the corn and cotton belt. Most of these products, including the wheat, are shipped outside of the Great Plains area for processing and consumption, thereby having an important influence upon the labor and economy of the rest of the United States. There are in excess of 8,825,000 acres of irrigated lands in this area on which specialized crops such as sugar beets, beans, corn, etc., are raised, and millions of tons of hay as a backlog of supplementary feeds for the livestock industry of the prairies.

Wheat production in recent years, as a result of soil conservation practices on several hundred farms within Soil Conservation Districts, is showing an increase of from 2 to 5 bus per acre, an average of more than 20% increase for all crops. As a result of these soil conservation practices, including contour farming, terracing, wind-strip cropping, soil conserving crop rotations, and stubble-mulch control, many of the lows in production in critical years are being leveled out, as water is one of the controlling factors in grain production in this area.

R. I. Throckmorton reports that now the following year's winter wheat crop can be forecast with reasonable accuracy on the basis of the soil-moisture supply in the fall. This is done by means of soil-moisture tests and experimental work over a number of years. Much work is being done along the same lines in an effort to predetermine the possibilities for a spring wheat crop.

The Soil Conservation Service in 1933 and 1934 established a number of soil conservation demonstration projects in the Great Plains and demonstrated the feasibility of instituting soil conservation practices for conserving the soil resources, conserving the water, and making better use of the land and water on the upper reaches of the watersheds. They also demonstrated that wind erosion can be controlled and that water erosion can be reduced.

As a result, farmers in the six northern Great Plains states have organized over 220 Soil Conservation Districts embracing 110,000,000 acres of land. The Great Plains is a vast area composed of the states of North Dakota, South Dakota, Montana, Wyoming, Nebraska, Colorado, Kansas, and parts of Oklahoma, Texas and New Mexico. The area has more than 300 Soil Conservation districts including 175,000,000 acres of land and one third of a million farms. All have been organized since 1937, when the first state Soil Conservation Districts law was passed.

Approximately 41 months have elapsed since we entered the war, and records show that instead of being forgotten for the duration of the war, Soil Conservation Districts have been organized at the rate of 15 new districts per month in the United States. This is compared with an average of 12 new districts per month from June, 1937, to Dec., 1941, before the war. It constitutes about the finest conceivable endorsement of the districts' program. During the 52 peacetime months, prior to the war and after August, 1937, when the first district was organized, some 600 Soil Conservation Districts were organized. In the 37 months following the outbreak of the war, approximately the same number of districts have been organized.

Fitting the crops and tillage practices to the land is shown in the picture above, taken in Wyoming where cane and soybeans are grown on the contour where soil and climatic conditions warrant some farming operations.

It is often asked, "Why haven't the curtailment of travel, shortages of labor, and the headlines of war retarded the districts' movement?" There are many reasons: Farmers and ranchers, aware of the importance of food in war, have been eager to adopt practices that would increase production. Soil conservation, with the aid of Soil Conservation Districts and the technical assistance of the Soil Conservation Service, as well as other aid, has not only helped farmers and ranchers produce more—it has also helped them do this while providing the best possible armament of erosion control.

The district movement is correct, moreover, because among other things, districts are set up through voluntary farmer-action. And out of voluntary action comes the strength and the will to do things. In Soil Conservation Districts farmers work together in a community spirit. Out of this working together of human things, stimulated by the best thinking and aided by the determination of the whole community, comes further strength and will to do.

We have made a good start on the conservation job here in the United States—but it is only a start. Do not forget that. Fortunately, we started off in the right direction when the national Soil Conservation Service program began. We decided to treat the land in accordance with its needs, and use it in accordance with its capabilities. We were also right in deciding to do our work with the farmers and ranchers out in their fields, pastures, ranges and woodlots, rather than in steamheated rooms where there is neither land nor erosion. One can only conclude, from the many expressions of opinion in conversations and letters, that farmers and ranchers like this new kind of on-the-spot assistance. It's real. It's practical. And they don't

The field in the picture above, was dam-listed on the contour and is holding the water from a dashing 3-inch rain which fell in one night. An attachment on the lister throws up dams at short intervals in the lister furrow, preventing any run-off.

have to dress up or go to town to get it.

What we Americans have ahead of us, however, is even more of a challenge. A nation-wide inventory of conservation needs, completed during the past year by the Soil Conservation Service, indicates the location and extent of areas needing various kinds of conservation treatment. First study of its kind ever made on such a comprehensive scale, this inventory provides a dependable guide to future work of protecting the country's soil resources.

Here are some of the things that need to be done in the interests of soil and water conservation in Region 5, composed of Kansas, Montana, Nebraska, North Dakota, South Dakota, and Wyoming, and is only a sample of what should be done in the other 42 states:

Contour farming	18,520,918 acres
Wind strip cropping	24,314,062 acres
Terracing (less Montana and Wyoming)	11,377,660 acres
Crop residue management	68,802,525 acres
Stock water dams	71,371 dams
Water spreading on rangeland	1,138,359 acres
Rotation of hay and pasture	25,289,875 acres

That is not all of the list, but it is enough to pass on the idea. Nationally, around 10% of the soil conservation job is completed. That is only a really good start—but not much more than that. What makes it good is the speed and thoroughness of our present progress when viewed in the light of our early record in this field of endeavor. When one stops to consider how long this country waited and how much of our soil was lost before we even made a start, you get some idea of our true advances in the past few years.

We are at last getting a row of figures started on the black side of our national resources ledger that has been practically all red until recently. We could not have done this well without Soil Conservation Districts, so let us all join hands in seeing to it that nothing happens to them and that not one iota of the independence that has been given these farmer-controlled districts be taken from them.

——BREAD IS THE STAFF OF LIFE——

A Textbook for Feed Manufacturers

THE whole subject of the manufacture of formula feeds is dealt with in the second edition of "Provender Milling," by J. F. Lockwood, published by The Northern Publishing Co., Ltd., Liverpool, Eng. Mr. Lockwood is a milling engineer with Henry Simon, Ltd., manufacturers of milling machinery. The book retails at 15s net, which at the present rate of exchange, is approximately $3.50. It may be obtained from the publisher's New York office at 230 Produce Exchange.

The book is divided into three sections. The first section is concerned with the raw materials of which formula feeds are made. Some discussion is also devoted to animal nutrition. The second section describes machines used in the manufacture of feeds and the third section describes the processes.

The author explains in a preface to the second edition that the war has prevented any major developments in England in technique, but because of the fact that the supply of the first edition was exhausted, the book was reprinted in its original form except for a few minor alterations and corrections.

The milling machinery described in the second section is, of course, mostly all of British manufacture. Some, however, are American design.

There are chapters in other sections of the book which might be helpful to American feed manufacturers. The chapter, "Properties of Common Feedstuffs," and another chapter, "Balanced Rations," for instance, might be useful supplements to books published in this country.

With the progress of the scientific feeding of livestock and poultry, manufacture of formula feeds has become a highly specialized industry. Haphazard, rule-of-thumb methods have gone forever and only by keeping his plant and products at the highest efficiency can the feed miller hope to survive. "Provender Milling" might well supply feed millers with information which would return to them in savings many times the cost of the book.—P. L. D.

——BREAD IS THE STAFF OF LIFE——

Prejudice Against Roller Mills

Two things operated to the disadvantage of the early roller mills. These were the prejudice of millers and the extremely crude design and construction of the machines. Certainly the engineers received scant encouragement, for bad as the roller mills in the Munich mill may have been, the attitude of the men who operated them must have been worse. It was said that the rolls failed because of the excessive power they consumed and because "it was impossible to find a sufficient number of skillful and intelligent workmen" but it may be suspected that the latter statement included the former, also. —Studies in Practical Milling.

"Betcha I could eat a billion of 'em!"

Youthful enthusiasm usually knows no bounds . . . especially for something good like a piping hot biscuit made with V-90 self-rising flour.

This much, however, can be said without exaggeration. Even a gargantuan appetite for a billion biscuits would barely put a dent in the available supply. As a matter of fact, in the six years that V-90 has been on the market over 200 billion V-90 biscuits have been baked in kitchens throughout America.

That's a lot of biscuits . . . and it's given V-90 lots of opportunity to prove itself under widely varying baking conditions. Blushing bride or experienced cook . . . baking with an old-fashioned wood burning stove or streamlined electric range . . . makes little difference. Again and again, slow-acting V-90 has demonstrated its superior baking action . . . in biscuit volume, color, texture . . . in just plain good eating quality.

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An Agronomist's Appraisal

Wheat Improvement Research Goals

By R. I. Throckmorton

THE need for additional research in wheat from the agronomic point of view is almost identical to the need from the point of view of the wheat producer. The agronomist and the wheat producer may not agree on the merits of a given variety, but they usually agree on the essential characteristic for a good wheat. Therefore, I am speaking for the farmer as well as for the agronomist.

The developments that have been made and the varieties that have been released by the agricultural experiment stations since the inception of the co-ordinated hard winter wheat research program represent vast improvements in the wheat variety picture of the region. In general, these improvements have not, as yet, been reflected in farm production because seed supplies are just now becoming sufficient for a marked expansion in the acreage of these wheats.

Pawnee wheat, with its high yielding capacity, high test weight, short stiff straw, high resistance to loose smut and moderate resistance to leaf rust, stem rust, bunt, and Hessian fly, will undoubtedly replace most other wheats in the eastern portion of the hard winter wheat region. The production of this variety will result in an increase of several million bushels of wheat annually in its region of adaptation.

Comanche wheat, with high yielding capacity, good test weight, earliness, stiff straw, high resistance to most races of bunt and considerable resistance to leaf rust, is superior to the high quality wheats now being produced in its region of adaption. It is superior to all varieties being grown in its region of adaptation except in test weight and appearance. As seed supplies become available, Comanche will no doubt replace other varieties in much of its region of adaptation. It will not, however, replace some of the varieties having an exceptionally high test weight unless there is some change in grading, marketing or purchasing practices.

Editor's Note.—The accompanying article is the text of an address that was made by Mr. Throckmorton at the hard red winter wheat improvement conference held at Manhattan, Kansas, Feb. 14. Mr. Throckmorton is head of the department of agronomy at Kansas State College and is a nationally recognized authority in his field.

Wichita wheat will no doubt replace most of the Early Blackhull because it produces higher yields and has good test weight. Although Wichita is superior to Early Blackhull in quality, it is not as good in this characteristic as is desirable.

Rust Resistant Varieties Needed

Perhaps the first need for additional research in wheat improvement from the point of view of the agronomist and the farmer is the development of stem rust resistant varieties. It has been estimated that the average annual loss from stem rust in Kansas for the period 1935 to 1944 was $4,676,000. The moderate resistance of Pawnee is not sufficient to meet the need and, in addition, Pawnee is not well adapted to all sections of the region. This tremendous loss from stem rust needs to be eliminated and the only practical method is through the development of stem rust resistant varieties.

It is important that varieties having resistance to leaf rust be developed as soon as possible. The amount of resistance carried by Pawnee and Comanche will be helpful, but we need varieties that have greater resistance than that of these wheats. The average estimated losses in Kansas from leaf rust for the period 1935 to 1944 have been $3,336,000. In addition to reduced yields of grain, an infestation of leaf rust, especially when it occurs in the fall, may materially reduce the grazing capacity of wheat.

Bunt Causes Much Loss

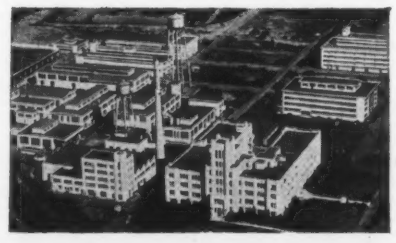
Bunt continues to cause rather heavy wheat losses, although seed treatments are effective in the con-

Are you ready for the new-type shoppers—men fresh from balanced rations in the Armed Services, women who have been planning meals on a scientific as well as budgetary basis?

The cereal industry as a whole is in a fortunate position, having already assumed leadership in the food field through the new idea of vitamin enrichment

But that leadership will need to be maintained, with potential customers who calculate in terms of comparative nutrition as well as appearance and flavor—shoppers in a mood to change readily their brand allegiances

Your wisest insurance, as present regulations may be modified, is to *keep* emphasizing both the fact of enrichment and its greater health values to the consumer.



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PK flour bags are coming out of the kitchen

For years upon years, cotton flour bags have served many utilitarian needs of the kitchen. Shortly before the war, however, flour bags were brought out of the kitchen by an entirely new conception of bag material design. Gay prints, tints, pillowcases, and similar unusual bag fabric ideas inaugurated by Percy Kent won nation-wide ready acceptance.

With the war, design developments necessarily have taken second place to production problems. But here at Percy Kent, we're planning future bags of new materials which will be at home in any room of the post-war house . . . perhaps even some of fabrics not yet known to any of us. For the unexpected keeps us always on the alert.

You, too, are no doubt getting your post-war sales picture into focus. We invite your inquiry on how these new Percy Kent bags and ideas can assist in establishing your brand as "buyer's choice" in a peacetime buyer's market.

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trol of the disease. The resistance of Comanche and the moderate resistance of Pawnee to this disease will be of great aid in reducing the losses, but a wheat or wheats having the resistance of Comanche are needed for those sections of the region where Comanche is not adapted. Previous to the general adoption of seed treatment for the prevention of bunt, losses were extremely high in some seasons as in 1926 when the estimated loss was $19,993,000. It should not be necessary to continue indefinitely to treat seed for the prevention of bunt.

Loose smut occasionally takes a heavy toll of susceptible varieties. An increase in the acreage of Pawnee will aid materially in reducing losses from this disease, but varieties having resistance to loose smut are needed for the sections of the region where Pawnee is not adapted.

The foot rots have caused an estimated average annual loss of $4,914,000 in the Kansas wheat crop. The losses from these diseases are usually scattered and small on the individual farm; yet, the total loss is great. The only practical solution of preventing these losses seems to be the development of resistant varieties.

There are also minor diseases, as septoria and scab, that cause losses and that should be eliminated through the development of disease-resistant varieties.

Insect Resistant Varieties

Insects frequently cause serious wheat losses in the region. Entomologists have estimated that the average annual loss of wheat in Kansas from Hessian fly during the period 1926-1935 was 6,000,000 bus. R. H. Painter estimated that the loss in Kansas from Hessian fly in 1943 was 25,000,000 bus. The development of Pawnee will aid materially in reducing losses from this insect, but varieties having even more resistance than Pawnee are needed. Varieties having resistance to Hessian fly and adaptation to regions where Pawnee cannot be grown successfully are also needed.

In the eastern part of the region, chinch bugs are considered rather closely after Hessian fly as a pest of wheat, but it is difficult to measure the damage caused by this insect. Mr. Painter advises that Pawnee, Tenmarq and Kawvale appear to be more susceptible to chinch bug injury than are most of the varieties which they have replaced. Thus, in developing new wheats, consideration needs to be given to resistance to chinch bug injury.

The spectacular outbreaks of greenbugs in southern Kasas, Oklahoma and Texas, although occurring only at intervals, cause heavy losses. Mr. Painter advises that Pawnee is apparently highly susceptible to injury from greenbugs and that extensive growing of this variety may serve to lessen the intervals between outbreaks. Pawnee will no doubt be grown most extensively in Oklahoma and Kansas in areas where greenbugs have been most abundant. Attention needs to be given to the development of varieties having more resistance to greenbugs.

Grasshoppers are ranked as the most important insect pest of wheat in the western portion of the region. If varieties having resistance or tolerance to grasshoppers could be developed, it would aid materially in wheat production. Present methods of grasshopper control are laborious, expensive and sometimes ineffective.

Other insects that cause more or less local damage to wheat are wheat strawworm, false wireworm, cutworms and white grubs, and these should not be overlooked in a wheat breeding program.

Desirable Plant Characteristics

There are several plant characteristics the agronomist and the farmer want in wheats that further emphasize the need for additional research work.

Drouth resistance is important and a more definite study should be made to determine what constitutes drouth resistance. What are the factors that make Comanche better adapted to the western and Pawnee to the eastern part of the region? Increased drouth resistance should be one of the definite objectives in wheat breeding because during many seasons drouth is the limiting factor in wheat production in the western portion of the great plains.

Resistance to Drouth and Cold

Winter killing has not been serious in recent years, yet the possibility of heavy losses from this cause cannot be overlooked. There is a common opinion among agronomists that Comanche is not sufficiently winter-hardy for the northern portion of the hard winter wheat region. Yet, Comanche has done well at Akron, Colo. This means that more study is needed on the interrelationships of drouth resistance and cold resistance. More winter hardiness is needed in our wheats for the northern areas.

Varieties that will stand up for harvesting — neither lodging nor breaking over—and having short stiff straw, are desirable. Some of the newer varieties, as Pawnee, Comanche and Wichita, are far superior to the older varieties in this respect. The greatest criticism farmers ever placed against Kanred was susceptibility to lodging, and the greatest criticism against Blackhull has been the tendency to break just below the head. As other new varieties are

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developed, this characteristic must not be overlooked.

Early maturing, or at least sufficiently early to escape many of the periods of drouth and high temperatures, is important. However, wheats should not be so early in maturing as to reduce yields.

Wheats having an upright type of growth and that do not become dormant until late in the fall are desired in those sections where the grazing of cattle and sheep on wheat during the fall and winter has become an important industry.

The kernel characteristics of many of the varieties of wheat being produced at the present time could be materially improved. From the viewpoint of the agronomist, additional research is needed to improve kernel characteristics.

Quality Wheat Handicapped

Under the present system of grading and marketing wheat, some of the best varieties from the standpoint of quality are discriminated against because of relatively low test weight. Unless some changes are made in the grading and marketing systems, the condition will continue to exist. In addition, farmers like to grow high test weight wheats. Because of these conditions it is imperative that wheats of good quality and having high test weight be developed.

Wheat producers and purchasers like varieties having attractive kernels that do not tend to bleach after maturing or as a result of rainfall. The tendency of Tenmarq kernels to bleach has discredited the variety with many growers and purchasers, although bleaching does not reduce the actual value of the grain. It will be an aid to the wheat industry of the region to develop new varieties having attractive kernels that retain their appearance after maturing and under adverse climatic conditions.

High yielding capacity has always been important in wheat production. Resistance to insects, diseases, winter injury, lodging and drouth tends to lead to increased yields, yet varieties must have high inherent yielding capacity to be acceptable. High yielding capacity is not likely to be disregarded by plant breeders.

Agronomists Are Quality Conscious

Agronomists are distinctly conscious of quality in wheat. They are like wheat producers in that they want to see the controversy relative to quality solved at an early date. They realize that the future of the hard winter wheat industry will in the final analysis be determined by whether the varieties produced are acceptable to the trade.

Most of the winter wheats that are used for blending purposes are produced in the western part of the region. To meet the need for blending wheats, varieties having high yielding capacity, high test weight and sufficient strength to meet blending requirements, must be developed for and be produced in this region. Although Wichita is a vast improvement over Early Blackhull in quality, it is not as good a variety of early wheat as is needed. Therefore, an effort should be made to produce an early wheat that is superior to Wichita in quality as well as in many other characteristics.

In addition to the vast needs for additional research in plant breeding, there are other problems that should have attention at an early date if research is to make a full contribution to the wheat industry.

The entire field of factors that influence the protein content and the quality of wheat should be studied. This means careful physiological studies of the wheat plant during its entire period of development. It also means careful ecological studies. On an average we can predict with a fair degree of accuracy the production of wheat previous to harvest by knowing the moisture content of the soil. An attempt should be made to determine whether the protein content of wheat can be forecast with reasonable accuracy previous to harvest. Such a study offers promise of valuable results.

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Camouflage serves a very useful purpose on the war front, but it has no practical use in flour mills and grain elevators. Do not make potential hazards invisible to the employees, but instead, paint them so that they "stick out like a sore thumb."

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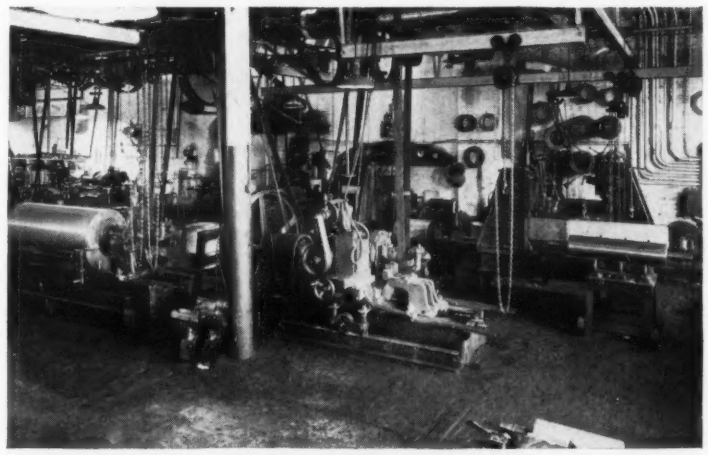

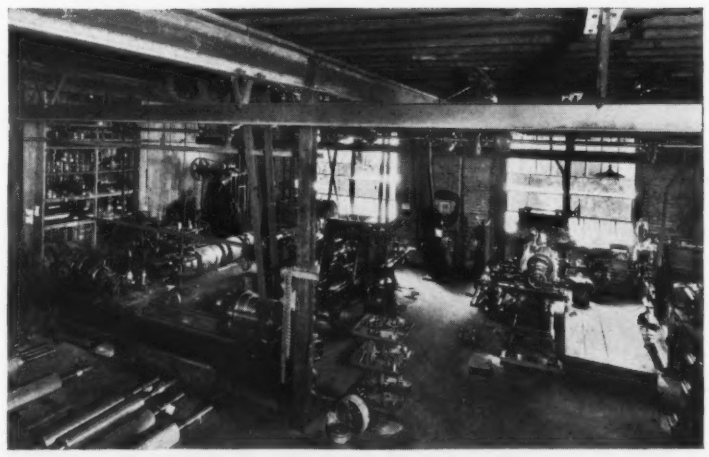

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Chemistry for Millers

Diastatic Enzymes in Flour

By Dr. C. O. Swanson

THE amount of sugar present in most hard red winter wheat flour is too small for the desired rate of gas production in dough. Most of the sugar present in flour is in the form of sucrose, $C_{12}H_{22}O_{11}$ and the amount of maltose or other reducing sugar is small. The average amount of sucrose found by Blish, Sandstedt and Astleford in 33 samples of representative bakers' flours was 1.25%, ranging from 1% to 1.74%. The average amount of maltose or reducing sugar was 0.14% in the same flours. This situation makes necessary the use of sugar in the baking formula. The possibility of changing some of the starch to sugar which is directly fermentable by yeast forms the basis for diastasing flour or blending in malted wheat or flour. This process increases the amounts and activity of the diastatic enzymes naturally present in flour milled from sound wheat.

Source of Diastatic Enzymes

Flours contain diastases or amylases which are enzymes capable of converting portions of the starch into fermentable sugars. The amounts of such enzymes in flour from sound wheat are small but much greater in wheat which has undergone the process of germination or malting. Improvement of the gassing values of the flours was first learned by practical observation with the addition of small amounts of field-sprouted wheat to the mill mix. Wheat which has been sprouted or malted under controlled conditions is much more dependable than that which has germinated under haphazard harvest conditions. Hence the addition of malted wheat or flour has become a common practice. The determination of maltose value or diastatic activity is now a routine laboratory determination.

Editor's Note.—The accompanying article is the fourth in a current series of articles by Dr. Swanson and dealing with the general subject of enzymes. The author is professor of milling industry, Kansas State College, Manhattan, and has received many awards, including the Osborne Medal, for his contributions to the knowledge of cereal chemistry. A fifth article, "Variations in Diastatic Activities and Effects of Germination," will appear in this journal's next issue.

Production of Sugar in a Mixture of Flour and Water

When a mixture of flour and water, usually in the proportion of 1 to 10, is allowed to stand at a favorable temperature for a time, a portion of the starch is changed to sugar. This process is called diastasis. The more common name which may be applied to the action of enzymes in general is autodigestion or autolysis. The rate of sugar production or diastasis is influenced by a number of factors. Among the most important are time, temperature and acidity or pH. A temperature of 64°C (147.2°F) will produce about 10 times as much maltose in two hours as would be produced in the same time at 30°C. The addition of a small amount of acid so as to increase the hydrogen ion concentration or pH will also increase the rate.

Meaning of Diastatic Activity

The diastatic activity or maltose value is expressed by the number of milligrams of maltose obtained after a mixture of flour and water or buffer, has been allowed to stand for one hour under specified conditions of time and temperature. Two designations are given in the literature: Rumsey units and maltose values as obtained by the Blish-Sandstedt method. The latter furnished the basis for the official method adopted by the cereal chemists. This method specifies a buffer, a weak water solution of acetic acid and sodium acetate, for digesting the flour and a temperature of 30°C (86°F). In the original Rumsey method, the digestion was made in water at a temperature of 27°C (80.6°F). These temperatures were chosen because of their closeness to

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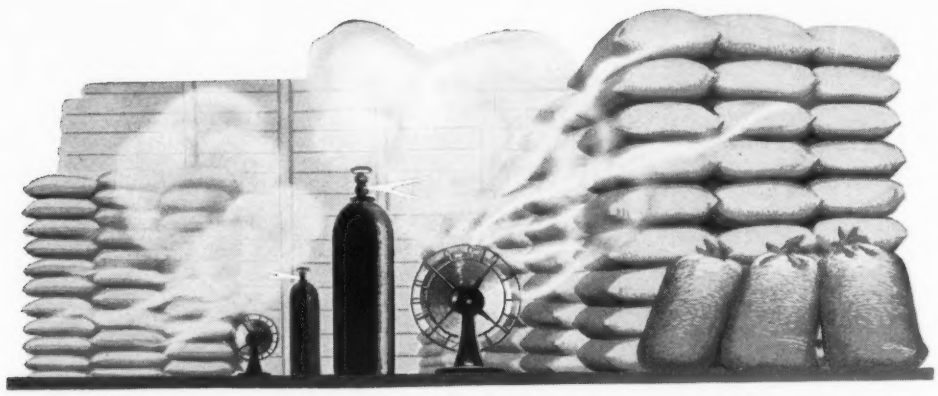

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those used in fermentation and proofing. It is important to bear in mind that a temperature of 30°C will produce somewhat more maltose than one of 27°C and hence the figures of the Rumsey units will be somewhat less than those obtained by the Blish-Sandstedt method.

Stages and Products in Diastasis

The amylases or diastases which convert starch to sugars are mixtures of several enzymes and the process takes place in stages or steps. The main function of one particular enzyme is to render the starch more susceptible to attack by the other enzymes. Dextrins are intermediate products between the altered starch and the sugars, maltose, $C_{12}H_{22}O_{11}+H_2O$, and glucose, $C_6H_{12}O_6$. Dextrins have a varying composition, but no definite dextrinizing enzyme seems to be identified as such. The action of any one of these enzymes or groups does not proceed to completion before the action of another enzyme starts. It appears, however, that the action of one enzyme is prevailing more than that of the others at certain stages, but these other enzymes may also be active simultaneously.

Variations in Wheat Starch Granules

A short discussion of the physical structure of starch as well as chemical composition will help in the understanding of some of the transformations which take place in diastasis or the process which changes starch to sugar. For further discussion see Chapter II "Physical Properties of Dough," by this writer. In physical structure starch exists in granules of various sizes. Stamberg, on the basis of a study of 17 flours, divided these into three groups: small, medium and large, based on the average diameters measured in microns (1/1000 of a millimeter). The granules which had diameters less than 7.4 microns were classed as small, those which had diameters between 7.4 and 14.8 microns as medium, and those above 14.8 microns as large. In numbers, the small granules comprised over 80% of the total. In weight and surface area, however, the large granules were by far the most important, comprising 93% of the total weight and 76.4% of the total surface area. Thus the medium and the small granules accounted for only 7% of the total weight and 23.6% of the surface.

The average total surface area of the granules per gram of wheat

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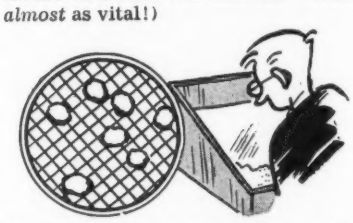

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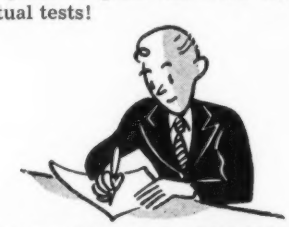

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starch was calculated as 2,004 sq. cm., but one gram of the small granules would have a surface area of 8,519 cm^2. This indicates the large surface area which may be exposed to attack by the amylases or diastatic enzymes when wheat flour is suspended in water or a buffer solution. While the small granules constituted only a small part of the total weight, their surface area per gram of starch was over five times as great as that of the large granules. Thus, by exposing a relatively large surface they may have an importance in diastasis out of proportion to their percentage of the total weight.

Structure of Starch Granules

Starch granules have a well defined structure of alternate layers called alpha and beta amyloses. The alpha amylose is insoluble in water and the beta amylose is soluble (Bakhuyzen, 1925). The beta form is more hydrated than the alpha. The insolubility of starch granules in cold water seems to be due to the greater concentration of the alpha form in the outer layers. The beta amylose will dissolve and diffuse out from starch granules which have been injured mechanically as in prolonged overgrinding. The rupturing of the insoluble outer layer appears to be one reason for the increase in diastatic activity as a result of overgrinding flour. Gelatinizing starch by boiling in water is one method of increasing its susceptibility to diastatic attack. Such gelatinized granules have been swelled to many times their original size. The starch molecules in such distended granules are more nearly surrounded by water and are thus in a position to be more readily attacked by the diastatic enzymes.

Chemical Formulas

The chemical formula for starch is usually written $(C_6H_{10}O_5)n$, the n indicating the number of possible $C_6H_{10}O_5$ units in the molecule. The reported molecular weights of starches vary all the way from 5,000 to 500,000 (Ceasar and Cushing, 1941). This would indicate a wide range in values of n from about 30 up to 3,000. The unit $C_6H_{10}O_5$ differs from the glucose molecule $C_6H_{12}O_6$ in that the latter has enough more H and O to make a unit of H_2O. In the building of starch in plants, the sugar molecule $C_6H_{12}O_6$ is formed first. These are dehydrated by the removal of units of H_2O and then combined into the complex starch molecule $(C_6H_{10}O_5)n$. When starch is broken down by enzyme action the reverse process of adding H and O to make one unit of H_2O for each of the $C_6H_{10}O_5$ units takes place. Hence the name of hydration and hydrolyzing enzymes. In reality these processes are much more complicated. These simple forms are given here to indicate the processes in very general terms.

Swanson and Calvin (1913) and also Rumsey (1922) investigated several factors which influenced diastatic activity or the rate at which sugar is produced by autodigestion. This rate was determined by estimating the number of milligrams of maltose present after flour had been digested in water under various conditions. The use of a buffer solution was a later development. Among the factors investigated were: proportion of flour and water, temperature, duration of the period of digestion and acidity or pH.

Diastasis reached a maximum when flour and water were mixed in equal amounts. No increase was obtained when water was present in greater proportions even up to a ratio of 1 to 40. When the ratio of water to flour was less than 1 to 1 there was a decrease in diastasis, indicating that the rate of maltose production in ordinary stiff dough may not be as large as in a slack sponge made with equal parts flour and water. The ratio of one part flour to 10 parts liquid is now used in diastatic activity determinations since this gives a good workable suspension.

The rate of diastasis increases with temperature up to a certain point and then there is a decrease as shown in Table 1 (Rumsey, 1922). Obtaining of 2907 milligrams, nearly 3 grams, from 10 grams flour is a remarkable demonstration of the power of enzymes to influence the rate of chemical transformations. If the flour contained 70% starch, then about 41% of this was converted to maltose by the simple process of digesting in water at 63.5°C (146.3°F) for one hour. The rapid decrease in the rate of diastasis above and below the optimum temperature of 63.5°C is evident from the data. The decrease in diastasis above the optimum is due to the harm done to the enzyme structure by high temperatures. The less diastasis obtained at the lower temperatures is according to a general law governing the rate of chemical reactions and may be ascribed to the slower vibration rate of molecules.

Table 1. Influence of Temperature on the Rate of Diastasis (Rumsey, 1922)

Temperature C°	Milligrams maltose from 10 grams flour 1 hour digestion
0	39
27	212
55	1138
60	2140
63.5	2907
65	1641
67	770
70	402
76	92

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The longer the time of digestion, the more maltose is obtained, but the relationship is not linear. Table 2 gives figures obtained by Rumsey (1922) at 27°C. The amount of maltose obtained in five hours was only a little more than twice that obtained in one hour. The greatest rate of production was during the first hour and this is one reason why this time may be used in routine determinations of diastatic activity.

Table 2. Influence of Duration of Time on Amount of Maltose Produced at 27°C (Rumsey, 1922)

Time Hrs.	Milligrams maltose per 10 g flour	Rate of increase
1	211	..
2	294	83
3	358	64
4	395	37
5	442	47
6	465	23

Enzymes have a definite optimum hydrogen ion concentration or pH at which the rate of reaction is at the maximum. Table 3 gives the amount of maltose produced in one hour at various pH values taken after one hour digestion (Rumsey, 1922). A small amount of acidity has an accelerating effect shown by the 57 milligrams obtained at pH 7.02, near the absolute neutral point, as compared with 317 milligrams obtained at pH 4.81.

Table 3. Influence of pH on the Role of Maltose Production (Rumsey, 1922)

pH	Milligrams maltose from 10 grams flour
2.78	35
3.52	196
4.01	295
4.81	317
5.20	305
5.74	213
7.02	57
9.07	10

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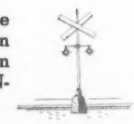
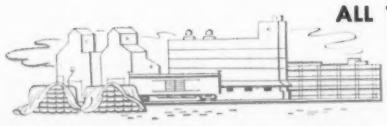
CONTROL PROGRAM

TAILORED TO YOUR NEEDS—Every YEAR 'ROUND PEST CONTROL PROGRAM is fitted to individual requirements determined after an exhaustive study of plant conditions. An accredited fumigation engineer visits your plant . . . studies the building and equipment . . . watches operating procedures . . . looks over incoming shipments . . . determines the best method of keeping infestation under constant control. His report—a written copy of which is given to you—becomes the start of a permanent library of information on your particular situation.

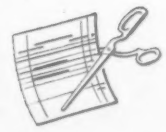
CONSTANT CONTROL—Complete pest control throughout the entire year is made possible by this new plan. Fumigations are fewer—instead of an occasional clean-up, infestation is constantly under control through the employment of continuing measures. You can forget your entire pest problems when you operate under the YEAR 'ROUND PEST CONTROL PROGRAM.





ALL TYPES—Every type of fumigation service is rendered by experts—tarpaulin or "spot," vault, boxcar. Only top ranking materials, thoroughly tested by time and experience, are used in the YEAR 'ROUND PEST CONTROL PROGRAM. These include Methyl Bromide, Chloropicrin, Cyanide Gas, and other fumigants depending upon requirements.

LOWER COSTS—There are several reasons for expecting this new plan to save you money. First, is the elimination of unnecessary travel by fumigation crews especially in cases involving branch plants. By cooperation between outstanding industrial fumigation firms in all parts of the country, each job is handled by the operator nearest to the plant. However, you need deal only with the fumigator located in your main office district. Naturally, this group effort results in greatly increased purchasing power when it comes to materials—another substantial saving passed on to you. Finally, because you have YEAR 'ROUND PEST CONTROL, the periods between fumigations are probably greater . . . you have fewer shutdowns . . . less spoilage.



Early Methods of Grinding

THE earliest method of grinding was on the "impact" principle—pounding the grain with the "pestle and mortar" or the "saddle stone" and "pounding stone"; this method flattened the grain, especially damp and soft grain, which led to the notching of the pestle on its bottom striking surface in order to obtain a grating rather than a pounding action, and burst the grain into meal. From this developed the hand stone or quern, in which a handle was fixed to the pestle so that it could be turned round on the mortar. This meant that the two stones remained in continuous contact, resulting in greater capacity and probably better ground meal. The effort to turn the pestle or upper stone must have been greater than in the case of the former raising and pounding of the pestle on the grain, and this probably accounts for the fixing of two handles in the upper stone, as shown in some illustrations depicting these early grinding implements, so that the work could be shared by two persons.

It is thought that these early hand quern stones had flat grinding surfaces, and possibly the former practice of notching the striking end of the wooden pestle led to the adoption of grooving or furrowing of the stones. On the other hand, soft stone may have been used which, by wearing away of the softer parts, became furrowed, with continuous grinding. Our early forebears may have discovered that on putting new flat stones into operation they did not grind so well, and thus adopted the practice of chipping furrows on the stones, which eventually developed into furrowing to definite designs in order to obtain different degrees of grinding. Be that as it may, the early notching of the pestle and the furrowing of the succeeding hand grinding stones were the forerunners of the present day practice of fluting the break and scratch rolls.

The hand operated grinding stones developed into cattle driven grinding mills. Water driven mills followed the cattle driven mills. As improvements in grinding methods developed, resulting in better ground meal, progress was also made in classifying the ground products into different grades of fineness and freedom from bran, sieving being carried out with papyrus or woven hair hand sieves. It was also found that grain dried by slight roasting was ground more easily; this must have been the earliest sign of conditioning.

Windmills were then developed, and, although very few of these remain in use in this country, water, turning water wheels or driving turbines, is still used as a supply of power in many a country mill. Stone grinders are still in use for grinding wheat meal and cereal meal, and maize, barley, oats, meals, etc., for provender purposes.—Milling.

Sales Campaign for Family Flour

* * * * * * * * * *

Promotional Program Designed to Re-establish Home Baking with Self-Rising Flour

EVERY miller of family flour is faced with the problem of a declining market for his product and an "aggressive baking industry that has been all too successful in its efforts to convert home bakers into buyers of bakery products," a brochure issued by the Family Flour Institute, Inc., states.

The Family Flour Institute is an organization of millers who specialize in the production of that type of flour. The organization proposes to promote the use of family flour; to organize, finance and supervise programs for the promotion of the use of family flour; to gather and distribute information and statistics relating to the use of family flour; to engage in research work to improve the manufacture and quality of family flour, and to do such other things as may foster and encourage the use of family flour. Those objectives are set forth in Article II of the institute's constitution.

Officers of the institute are: L. C. Chase, Valier & Spies Milling Co., St. Louis, Mo., president; F. H. Bateman, Shawnee (Okla.) Milling Co., vice president; Allen R. Cornelius, Nashville, Tenn., secretary and treasurer; and the following are members of its board of governors: M. J. Buhler, Buhler (Kansas) Mill & Elevator Co; V. H. Englehard, Ballard & Ballard Co., Louisville, Ky; Frank Yost, Hopkinsville (Ky.) Milling Co; V. S. Tupper, Nashville (Tenn.) Roller Mills, and D. H. Wilson, Ph. Postel Milling Co., Mascoutah, Ill.

To Boost Self-Rising Flour

The institute's promotional campaign will center around the use of self-rising flour. "It naturally follows that whatever mill product, baking procedure or selling method will do this best should be employed," the brochure states.

"There is ample statistical evidence to prove that women who use self-rising flour bake more often. Because of this their families consume more flour since they like home-baked oven products better than the wares of the bake shop. Self-rising flour is easier to use. Flour is used more frequently as a food in those homes where baking is made easier and good results more certain," the family flour producers claim.

All self-rising flour approved by the institute will feature "Oven Magic" baking powder symbol on the package and in the advertising campaigns. The phosphate and soda contained in self-rising flour "may properly be described as baking powder and the name 'Oven Magic' has been coined to describe this particular type of leavening used in the flour," the institute's brochure states.

The institute owns the trade-mark and trade name, "Oven Magic." Each regular member in good standing in the organization is entitled to the use of the trade-mark and trade name, subject to the rules and regulations controlling their use.

Flour Must Pass Tests

Eligibility for use of the Oven Magic symbol shall require a minimum rating of "good" as a result of laboratory tests of the flour in the baking of biscuits, cakes and pastry and in which "good" rates third in a five-point rating scale of excellent, very good, good, fair and poor.

The "excellent" rating shall represent the oven products of a standard short patent flour of the type (hard or soft wheat) submitted. The minimum grade acceptable shall be a standard 95% patent flour, the institute's rules specify.

Members will be permitted to use the Oven Magic symbol on as many mill brands or private brands as desired. Each grade of flour, however, must have been approved by the board of governors.

Family flour millers and blenders are eligible for regular membership in the institute. Membership is by election.

Revenues of the corporation shall be derived from dues and assessments levied upon the regular members. Allied members "shall pay such dues and assessments as shall be equitable in the opinion of the board of governors," the institute's constitution specifies. Dues for regular members are based upon an assessment of a specified sum per sack of family flour produced and packed in family flour packages.

The institute's promotional pro-

INSECT PESTS?

Fumigation with Liquid HCN

Liquid HCN fumigation kills (1) while *penetrating the product,* (2) while *retained in the product,* and (3) while *leaving the product.* It destroys insect life in all stages from egg to adult . . . is quick, safe and convenient to use... leaves absolutely no harmful after-effects on your foodstuffs. At the same time, it reaches into each crack and crevice of floor, walls, ceiling and equipment, destroying insects, rodents and other pests, wherever they are hidden!

You should have just that kind of efficient, reliable pest control for *your* plant and product. It is readily provided! Just consult the Industrial Fumigation Engineer in your district. He'll gladly go over your whole pest control problem with you...and, if you wish, take it off your hands. If you don't happen to know him already, drop us a line and we'll have him get in touch with you. You incur no obligation.

AMERICAN CYANAMID & CHEMICAL CORPORATION
Insecticide Department
(A Unit of American Cyanamid Company)
30 ROCKEFELLER PLAZA • NEW YORK 20, N. Y.
Kansas City 6, Missouri • Azusa, California

SPECIFY THE FUMIGANT PREFERRED BY EXPERTS

LIQUID HCN

gram, as outlined in the brochure, follows, in part:

"Plain and phosphated flours fill a need in many homes and their use will be encouraged but there can be no denying that a good grade of enriched self-rising flour represents the best consumer buy, the most attractive mill sale and offers the strongest inducement for more frequent home bakings.

"Another and important consideration that influenced the decision to use self-rising flour as the principal medium for increasing flour sales was the fact that self-rising flour as it is made today is far superior to the self-rising flour of a few short years ago and the story of its improved baking qualities has never been adequately told. Around this product of sound merit can be built a far more powerful newspaper, radio and direct mail advertising campaign than would be possible with plain flour.

"Self-rising flour got its start in plain flour territory because the women who used it found an easier, quicker and more economical way to bake. It grew rapidly in popularity in spite of the limited purposes for which it could be used.

"Today, self-rising flour is truly an all-purpose flour and 'better oven products' can be added to the list of forceful selling features. The miller who offers this time-saving, labor-saving, money-saving, better baking flour in a plain flour territory has the very important advantage of a new appeal to consumers on his brand bearing the Oven Magic symbol.

"Actual experience with the proposed campaign in territory where self-rising flour was not established has shown that it gives the mill a striking sales advantage and substantially increases total flour sales.

"It is equally important that consumers in plain flour territory and consumers of plain flour in self-rising flour territory receive every possible encouragement to do more home baking and no flour offers as many inducements for this as self-rising flour.

"If the trend away from home baking is to be reversed we must base our case on the flour for which we have the strongest arguments. This does not mean that plain or phosphated flour will be neglected, for the intention is to use every means to glorify home baking with all flours.

"Since all flours promoted by the institute will be laboratory tested, a plan is being considered to develop a symbol for plain flour sacks, centered around the theme, 'Laboratory Tested for Baking Performance.' It is hoped that some markets in non-self-rising flour territories will be selected. Remember that the proposed Oven Magic campaign has already been run in one non-self-rising flour territory with highly successful results.

"Family flour consumption in plain flour territory has dropped alarmingly. What better way to re-interest housewives than to offer them a flour that is easier to use, produces better oven products, saves time and money? This is a practical procedure in any territory where an all-purpose flour is used for baking cakes, cookies, yeast rolls, etc. Because of the high salt content of self-rising flour, it is not recommended for the production of yeast-raised bread."

The institute plans to concentrate its activities, of course, in the South where the prewar family flour market was best. Many consumers in the South, the institute points out, "have mistaken ideas about self-rising flour." The greatly improved baking properties of present day self-rising flour never have been adequately advertised to the consumer, members of the organization believe. "We have in our hands the greatest flour story ever to be told and the market for self-rising flour will be substantially widened and the downward trend of self-rising flour consumption will be reversed when that story is widely and forcefully publicized," officers assert.

Each member of the institute shall have the privilege of selecting a number of markets in ratio to the amount of his dues paid into the association, but he will not have exclusive possession of those markets. Other members may select the same markets. Members will receive the assistance of the institute's advertising agency in the selection of markets in order to avoid duplication and assure adequate coverage in the various trade territories.

Officers of the institute set $150,000 as the goal for the first year's advertising expenditure. It is not contemplated to obtain complete coverage of the family flour territory during the first year of the campaign, however. The widest possible coverage will be attempted, officials state.

MAX KATZ BAG CO. INDIANAPOLIS, IND.
BAGS— BURLAP, COTTON, PAPER PLAIN OR PRINTED TRUCK COVERS TWINES

HAAKY
GRAIN CLEANING MACHINERY
HAAKY MFG. CO.
509 Vandalia St.
ST. PAUL 4, MINN.

ROLL GRINDING *and* CORRUGATING

We are specialists in the Grinding and Corrugating of Rolls and our mechanics have been selected with the view of giving our customers the best service it is possible to obtain anywhere. We are prepared to furnish most any style or type of corrugation required.

In connection with our grinding and corrugating plant, we operate a tool-making plant for making any standard or special corrugating tool —for corrugating rolls suitable to the requirements of the wheat that is available for grinding.

The service we are able to render is unparalleled, and we still continue—directly and indirectly—to devote our energy toward the War Effort. LET US DO YOUR ROLL GRINDING AND CORRUGATING.

Another Service—**WYDLER SWISS SILK**

Our service, workmanship and stock will warrant your placing orders with us for your silk requirements — Our many years of experience and satisfied customers justify our boasting of this department— TRY US AND LET US PROVE THE MERITS OF OUR SERVICE.

We also maintain a machine shop and corps of skilled workmen devoted to the manufacture of special machines for the flour and feed industries. BREAKDOWN ORDERS GIVEN SPECIAL AND IMMEDIATE HANDLING.

SEE RIV

GENERAL MILL EQUIPMENT COMPANY

2021 Pennsylvania Ave. *Kansas City, Mo.*

SEE RIV

Dermatitis in the Milling Industry

By Dr. W. Schweisheimer

INFLAMMATION of the skin of flour and feed mill and grain elevator employees is not uncommon and may result from contact with flour as well as with various other fine, dusty materials. The number of reports in recent issues of medical journals indicates that occupational skin troubles, called industrial dermatitis by physicians, is steadily increasing.

There are some newly developed materials and substances which may injure the skin of all workers. There are other materials that affect only some persons while others show no reaction.

A study of skin troubles, produced by ragweed, among workers in the flour and grain industries was recently published. The physicians who made the study stress the fact that ragweed dermatitis is a common occupational hazard among this particular group of workers. The dermatitis observed in the group is similar to that seen in farmers or others engaged in work in the open fields where ragweed might be encountered.

Skin Tests Determine Source

Indicator tests made on the workers' skin with an alcoholic extract of the weed, pollen or oil or a fresh leaf from the ragweed plant gave proof for the source of the trouble.

The indicator or patch test is of increasing importance for recognition of occupational skin troubles. It makes possible the determination of whether a miller or other employee in the grain processing industry is particularly sensitive or allergic to certain substances he has to work with.

To make a patch test, a piece of cotton or gauze is dipped in a watery solution or in an alcoholic extract of the suspected material. A small portion of the suspected material itself may be used for the test. The test material is applied to a clear spot on the arm or back of the worker to be examined. The dressing may be protected by a piece of cellophane to avoid any uncleanliness. The sample of the patch test is removed at the end of 48 hours, or sooner, of course, if an inflammation of the skin has resulted.

A positive test is indicated by redness or vesiculation or both symptoms at the point of contact of the skin and the suspected material. If no change in the appearance of the skin is noted, the test is said to be negative. Frequently a reaction similar to the original skin trouble will be produced by the test if the worker is actually sensitive to the material. The reaction may be either immediate or delayed. It may be accompanied by an unpleasant itchiness.

Test May Take Time

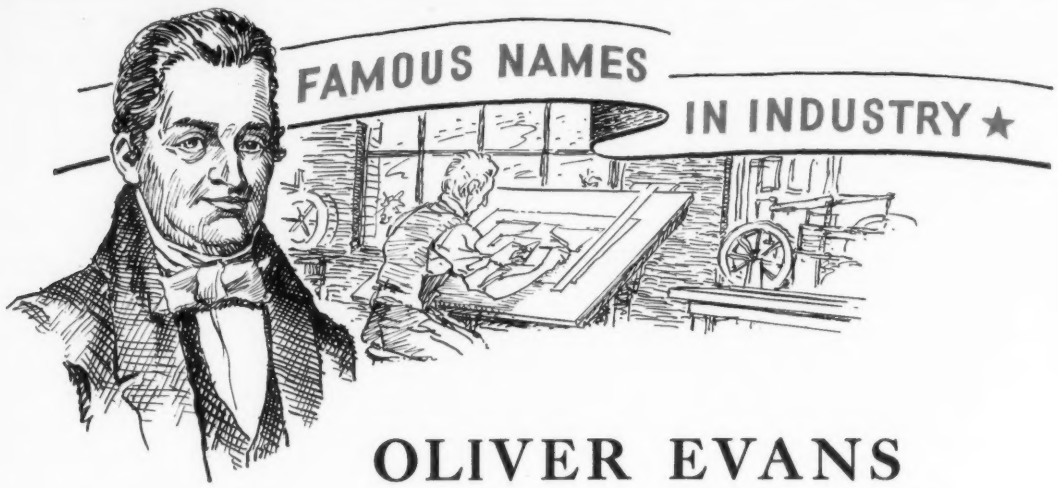
As a control test, similar procedures are carried out on the arm or the back of a healthy person who is presumably not especially exposed to the suspected new material. Sometimes it is a difficult task to identify the irritating material, be it grain or flour or a flour improver or what else. However, there is nothing to do in those cases but to carry out a patch test with each part or ingredient of the suspected materials,—for each single part may be the irritating material. Consequently, it may take considerable time and patience from both the worker and the doctor to find out the real cause of such unpleasant and work-hampering skin troubles.

New materials and substitutes may be suspected particularly when quite a number of the millers, etc., handling them are affected.

Hands and Forearms

The skin troubles of millers and other workers in the flour and grain industry affect mostly the hands and forearms. As a matter of fact, many of the inflammations stop about a hand's breadth above the elbow joint. Real pain is rare, but itching is very common and unpleasant, spoiling even the sleep and diminishing the working efficiency. The right hand and the right forearm are more concerned,—while lefthanded workers show such eczemas especially on the left hand and forearm. Occasionally the skin affection involves the face.

Some of those skin troubles have a tendency to scale. They are of a dry, scaly nature, with some patchy moist areas. Sometimes there are vesicles, small ones and somewhat larger ones. When, despite those signs of warning, the exposure to the irritating material is prolonged, the skin may become infiltrated and hard-



OLIVER EVANS

Oliver Evans was the outstanding inventive genius of the Colonial milling industry, but he did not stop there. Other experiments included a primitive automobile and many refinements on early steam engines.

He was not permitted to enjoy great financial success because of a long, drawn-out contest over recognition of his patents. His books, however, were the standby of early American millers and many of his devices are in common use today.

SWISS SILK is proud to pay tribute to a name still fresh in millers' memories, for SWISS SILK has been in millers' memories for more than a century, and on their reels and sifters, too. Today, wherever flour is ground, our bolting cloth is the guarantee of capacity, durability and economy.

Specify "SWISS SILK"

FULTON'S 75th ANNIVERSARY

MAKING FINE BAGS

The high quality of FULTON FLOUR BAGS plus Fulton's superior printing and attractive designs increase the eye appeal of your bags. Also, special premium packages with added sales value.

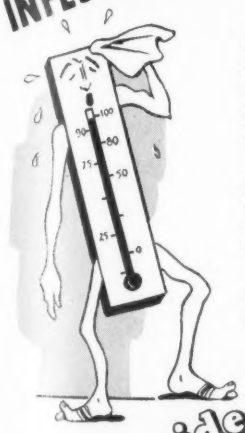
Write our nearest plant

Fulton Bag & Cotton Mills

Manufacturers Since 1870

ATLANTA ST. LOUIS DALLAS
MINNEAPOLIS NEW YORK NEW ORLEANS KANSAS CITY, KAN.

TO KEEP DOWN WARM WEATHER INFESTATION...treat your Machinery NOW!



Prompt action in May or early June, before any existing small infestation gets a chance to multiply under warm weather conditions, may save you a lot of summer trouble. Don't wait until July. By then infestation may be going in high gear . . . and ready to bring complaints about your flour shipments.

MEDITERRANEAN MOTH is particularly susceptible to Larvacide . . . which penetrates boot stock and works into woodwork cracks and crevices to kill egglife and larvae, along with the adult insects.

And by the way . . . IF YOU SUSPECT MOTH in Storage Bin Tops you can handle it easily by splashing a quart or so of Larvacide through bin top opening . . . then leaving bin tightly closed. If bin is only partially filled, use an extra ½ to 1 lb of Larvacide for each 1,000 cubic feet of empty space above grain surface.

Larvacide is a tear gas fumigant. Shipped in liquid form in cylinders 25, 50, 100 and 180 lbs. and 1-lb. Dispenser Bottles, each in safety can, 12 to wooden case.

★ ★

WRITE FOR LITERATURE on Better Pest Control.

Hot Weather BOX CAR TREATMENT

Spray a pint or so of Larvacide toward each end of loaded car before it leaves. This will go far to protect your clean flour in transit. Proper WARNING CARDS may be had from us, upon request.

INNIS, SPEIDEN & CO

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BOSTON · CHICAGO · CINCINNATI
CLEVELAND · OMAHA · PHILADELPHIA

Canadian Distributors STRONG, SCOTT MFG. CO. Ltd. TORONTO · WINNIPEG · CALGARY

Fortify Your Insurance

The primary purpose of an appraisal of your mill and elevator property is to provide a basis for the amount of insurance to be carried, and, in case of a fire, the appraisal serves as a basis for the amount of insurance to be paid.

Appraisals made by our trained and experienced engineers have never been successfully disputed in case of fire loss.

☆ *"Knowing your worth is well worth knowing."*

Appraisal Service Company, Inc.

Minneapolis, Minn.

☆ *Appraisers to the Milling and Grain Trade* ☆

FATE

ARE YOU TEMPTING IT?

Do Your New Employees Know The Fundamentals of

FIRE HAZARDS?

Write us for a supply of instruction cards to be handed to new workers. These cards list 12 brief rules of fire prevention in grain handling plants which every worker should know.

Your plant may be in danger due to ignorance, carelessness, or indifference.

MILL MUTUAL FIRE PREVENTION BUREAU

400 W. MADISON STREET
CHICAGO 6, ILLINOIS

ened or there may be an infection with pus-forming germs after scratching. Ridging of the finger nails may occur in long-standing cases. Involvement of the nails may occur also.

Sensitivity to skin troubles depends not only on the materials used in the flour and grain industry, and the working conditions,—but on the condition of the skin itself as well. Sometimes changes of the skin which are associated with aging play an important part. Generally it may be said that a thin and dry skin with a low fat content is a condition which favors the occurrence of eczemas.

The treatment of skin troubles must often start with a cessation of work. Most millers and other workers want to avoid or to postpone just this interference with their work. There is no doubt that in many cases a remarkable improvement is seen when the injurious substance has been recognized and removed. In other cases, the miller can work if he can do another kind of work than that connected with the harmful substance. Some experts emphasize the necessity of both cleanliness and wearing rubber gloves for avoiding certain skin troubles.

Workers in the milling and grain industry need adequate washing facilities, warm water, a mild, non-irritating (this means not overalkaline) soap, perhaps a little soda if necessary. The soap should not be unduly alkaline as this tends to soften the horny layers of the skin and increase the tendency to skin troubles.

It is important not to neglect any sores or injuries of the skin, even small ones. Many a long and weary skin infection could have been prevented by means of early treatment.

For many decades now the skin troubles connected with the work in the grain and milling industry have been an interesting problem of hygienic prevention. Every year brings about new problems and new solutions. We know more today about the origin of those skin troubles, and so we have also more ways to treat and possibly prevent those unpleasant ailments.

Flour Exchange **The J. K. HOWIE CO.** Minneapolis, Minn.
SOLE DISTRIBUTOR IN THE NORTHWEST FOR
GREENING WIRE CLOTH
PROMPT SERVICE and SATISFACTION GUARANTEED

· CHEMICALS FOR THOSE WHO SERVE MAN'S WELL-BEING ·

3 TYPES of BI-CAP one quality

TYPE A
Guaranteed Minimum Analysis

Each Ounce Contains:	Milligrams
Thiamine Chloride (Vitamin B_1)	380
Riboflavin (Vitamin B_2)	230
Niacin (Nicotinic Acid)	2740
Iron*	2400

Starch—To make one ounce.
*Added in the form of sodium iron pyrophosphate.

For straight and patent flours: use one-half (0.5) ounce avoirdupois of BI-CAP Type A per 100 pounds. Patent flour containing less than 0.34% ash should be analyzed to determine whether slightly greater additions are necessary.

TYPE B
Guaranteed Minimum Analysis

Each Ounce Contains:	Milligrams
Thiamine Chloride (Vitamin B_1)	380
Riboflavin (Vitamin B_2)	230
Niacin (Nicotinic Acid)	2740
Iron*	2400

Starch—To make one ounce.
*Added in the form of reduced iron (ferrum reductum).

For straight and patent flours: use one-half (0.5) ounce avoirdupois of BI-CAP Type B per 100 pounds. Patent flour containing less than 0.34% ash should be analyzed to determine whether slightly greater additions are necessary.

TYPE C
Guaranteed Minimum Analysis

Each Ounce Contains:	Milligrams
Thiamine Chloride (Vitamin B_1)	760
Riboflavin (Vitamin B_2)	460
Niacin (Nicotinic Acid)	5480
Iron*	4800

Starch—To make one ounce.
*Added in the form of reduced iron (ferrum reductum)

For straight and patent flours: use one-quarter (0.25) ounce avoirdupois of BI-CAP Type C per 100 pounds. Patent flour containing less than 0.34% ash should be analyzed to determine whether slightly greater additions are necessary.

To help millers in matching BI-CAP more exactly to their *individual* flour enrichment needs, three types of this original enrichment concentrate are now obtainable. To make product identification easier, the container label on each type is imprinted in a different color – Red for Type A . . . Brown for Type B . . . Green for Type C.

Whatever type of BI-CAP serves your flour best, you can be sure that quality control is exercised with the strictness characteristic of Chas. Pfizer & Co. throughout its near-century as manufacturing chemists.

PFIZER QUALITY

CHAS. PFIZER & CO., INC.
MANUFACTURING CHEMISTS • ESTABLISHED 1849
81 Maiden Lane, New York 7, N. Y. • 444 West Grand Avenue, Chicago 10, Ill.

FOR VICTORY BUY UNITED STATES WAR BONDS AND STAMPS

—BREAD IS THE STAFF OF LIFE—

"Canada Approved" Flour

FRANK B. ROBINSON, writing in Saturday Night (Toronto), states bluntly that Canada Approved vitamin B white flour is not approved by the general public, by millers and bakers or by cereal chemists (states our Canadian correspondent).

He points out that while Canadian flour milled for Britain has an addition of pure vitamin B_1, and while U. S. standards call for use of synthetic vitamins, yet in Canada, addition of synthetic vitamins is considered "adulteration" under the Food and Drugs Act. Whole wheat flour and bread would overcome the deficiencies of our diet, but only 3% of the flour used in Canada and the United States is whole wheat flour, in spite of 100 years of campaigning for its use by health enthusiasts.

He says that Canadian millers, feeling a patriotic obligation, have been producing Canada Approved flour, but have felt a perhaps instinctive reluctance to reverse milling trends of a century. Emphasizing that the new flour has had a fair trial, he points out that the laboratories of the larger milling companies shared the results of their experimentation with the whole industry, and all mills were enabled to produce the flour required by government regulations. A whiter flour than had been thought possible at first was produced by the millers, but the public would not accept it in preference to the white flour to which it was accustomed. As a result, only 7% of the total flour used in Canada (7½ oz per capita per day) is Canada Approved.—Milling.

—BREAD IS THE STAFF OF LIFE—

When grain is brought into the elevators in cars, wagons or trucks, it should be carefully examined for infestation and, if infested, should be stored in quarantine bins where it can be fumigated. Infestations of the granary weevil and the lesser grain borer usually originate in elevators. Before grain is stored, the bottoms and sides of the bins should be thoroughly cleaned; in the case of deep bins or silos, it would be more practical to fumigate the empty bins.

LABORATORY SERVICE
Exclusively a Cereal Consulting and Control Laboratory for the Flour, Feed and Grain Industries.
ST. JOSEPH TESTING LABORATORIES, Inc.
Corby Bldg. St. Joseph, Mo.

PURE
SILK BOLTING CLOTH
and
GRIT GAUZE

CANMORE BRAND

WOVEN IN SCOTLAND
UNDER SWISS TECHNICAL
SUPERVISION FROM
PURE SILK OF THE
FINEST QUALITY
OBTAINABLE DURING THE
PRESENT WAR PERIOD.

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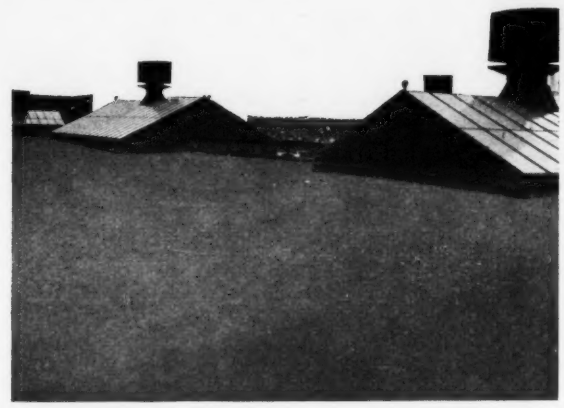
JONES-HETTELSATER CONSTRUCTION CO.
Designers and Builders for Milling Companies
1012 Baltimore Ave. KANSAS CITY 6, MISSOURI

HAMMOND
OVERSEAS BAGS
MADE FOR SERVICE EVERYWHERE!

Designed to take your product 'round the world—through rain, storm, snow, sleet, heat or crowded warehouses, Hammond Overseas Bags meet all export specifications. They can be quickly and economically adapted to your product—NOW!

HAMMOND
Betterbags
MULTI-WALL

HAMMOND BAG & PAPER CO.
Paper Mill and Bag Factory WELLSBURG, W. VA.



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Development of Roller Milling

BRITISH millers were somewhat slow to take up the gradual reduction method, and the use of the roller mill, instead of millstones, for grinding was not generally adopted until late in the nineteenth century, coinciding with the great industrial development of the country and the decline of agriculture. Actually, the millstones did fairly good work on soft, tough skinned, home-grown wheat and, with a moderate extraction, quite a passable flour was obtained, but imported flours began to arrive in this country which had been produced on the developing roller mill process, and which were of greater strength than the home-milled flour.

This compelled home millers to include hard, strong, foreign wheat in their grists, and brought about the end of stone milling. British millers found they could not produce flour equal in quality to the imported flour and so, in 1880, began the change-over from stones to roller milling, although, in many instances, millers were very conservative and introduced roller mills for reducing the middlings only, retaining stones for the breaking down, while others used the new roller milling process for breaking down the wheat and stones for reducing the middlings.

The diagonal roller mill of the present day is, of course, a very accurate grinding medium; far in advance of early roller mills, as can be realized by the illustrations in old milling catalogues. While the rolls of the present day British roller mill are placed diagonally in the frame, which provides far greater accessibility and easier feeding and driving, there are millers who attribute better grinding abilities to vertical and horizontal rolls of the older types.

Grinding Action of the Roller Mill

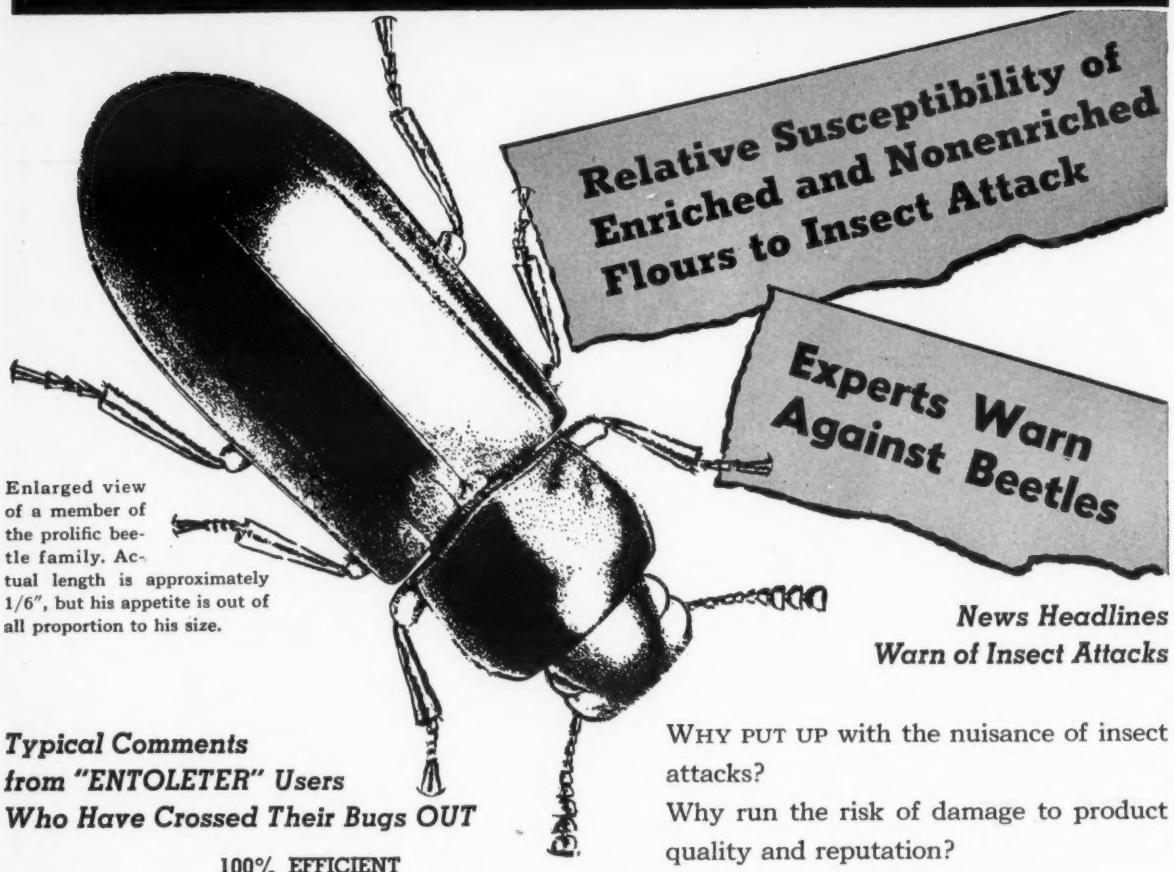
We are not concerned about the construction of the roller mill, but about its grinding action in comparison with large horizontal millstones. Modern roller mills are fitted with rolls of 9 or 10 inches diameter, and we would ask students to take a large piece of paper and draw two 10-inch circles at an angle of 45°. Now imagine that these two circles represent rolls, the top roll revolving at a speed of 350 r.p.m. and the bottom roll at a speed of 140 r.p.m., and that a stream of grain is fed between them. The teeth or flutes of the top roll take hold of kernels at the 350 r.p.m. speed while at the same time the teeth of the bottom roll come in contact with the grain at the 140 r.p.m. speed, with the result that the grain is sheared open very rapidly. Pass a grain of wheat between the circles (this is termed the "nip"), noticing how short is the actual grinding contact. Now endeavor to visualize a pair of 4-ft diameter horizontal millstones, the bottom stone fixed while the top runner stone revolves at 140 r.p.m., and think of the grain being fed into the center eye and remaining between the stones until ground and worked to the outer edge. Such is the difference in the grinding methods. The advantages of the roller mill grinding are the very short grinding contact involved and the speed of the operation, together with the differential speed of the two rolls, one running at 350 r.p.m. and the other at 140 r.p.m. The flutes of the top, fast roll endeavor to take the wheat through at a speed of 350 r.p.m. while the flutes of the bottom, slow roll endeavor to hold it back to a speed of 140 r.p.m. This constitutes the shearing action, which is so important that milling engineers have adopted the use of gears or chain drive to maintain the positive differential speed between the two rolls.

In the case of the older type roller mills, fast and slow rolls were both belt driven and sometimes, if set very closely, or dealing with a very heavy feed, they engaged together, resulting in the fast roll driving the slow roll round at fast roll speed, especially if the driving belt on the slow roll was slack, the differential being lost and the grain merely flattened instead of being shorn open.—W. A. Mortimer and A. R. Root in Milling.

——BREAD IS THE STAFF OF LIFE——

The volume of air delivered by a fan varies directly as the fan speed. The pressure produced varies as the square of the fan speed and the horsepower required to drive a fan varies as the cube of the fan speed.

"ENTOLETER" PROTECTS QUALITY STANDARDS



Enlarged view of a member of the prolific beetle family. Actual length is approximately 1/6", but his appetite is out of all proportion to his size.

News Headlines Warn of Insect Attacks

WHY PUT UP with the nuisance of insect attacks?

Why run the risk of damage to product quality and reputation?

Why pay the cost of spoiled materials?

WHY INDEED . . . when you can have continuous, effective insect control at key points throughout your mill . . . when you can be sure your products are FREE OF ALL INSECT LIFE!

The "ENTOLETER" gives you this control at surprisingly low cost. Simple to install and operate, it has become essential equipment in hundreds of mills and food processing plants. For "ENTOLETER" sizes, prices, etc., write Entoleter Division, The Safety Car Heating and Lighting Company, Inc., 1189 Dixwell Avenue, New Haven 4, Connecticut.

ENTOLETER
INFESTATION DESTROYER
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CONTINUOUS DESTRUCTION OF ALL INSECT LIFE

Typical Comments from "ENTOLETER" Users Who Have Crossed Their Bugs OUT

100% EFFICIENT

"Samples of the product are taken daily from our operating lines, before it goes through the 'ENTOLETER' and after. These are then tested in our incubator to prove at all times whether the machines are operating satisfactorily. These tests have proved the 'ENTOLETER' to be 100% efficient."

ORDERS TWO ADDITIONAL

"Last summer we installed two additional 'ENTOLETERS'. We should not want to run our plant without them."

TROUBLE STOPPED

"Prior to using the 'ENTOLETER' we had difficulty with bugs germinating in or entering our products, but since use of this machine all of this trouble is eliminated."

SIX MORE

"Our first 'ENTOLETER' was installed in 1941. Periodic examinations of 'ENTOLETED' low grade flour, stored in a warehouse for 60 days, showed no signs of insect life. This test, with many others, established the 100% efficiency of the 'ENTOLETER' in destroying all forms of infestation." (On the basis of this Company's experience, six additional 'ENTOLETERS' have since been installed in another unit.)

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The Chatfield & Woods Sack Co.
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MILL COGS
We make ALL kinds. Specialize in "Ready Dressed" cogs which are READY TO RUN the moment driven and keyed. Write for circular "DW" and instruction sheets free.
The N. P. Bowsher Co., South Bend, Ind.

Emergency Milling Plants For Liberated Areas

HAMMERMILLS are being used in liberated areas of Europe to produce whole wheat meal for the civilians in those areas, according to an article in a recent issue of Milling, British trade journal. The mill, a small, compact unit, includes a cyclone collector and is mounted on skids for easy movement. The power plant is a gasoline motor which also drives a 2-kilowatt electric generator.

"As soon as the Allies set foot in Italy it became obvious that the retreating Nazis were destroying the crops that had previously been exported to Germany and were wrecking the country's industrial plants, including flour mills vital to the nation's bread supply," the article stated. "So devastating was the damage wrought and so complex is the modern flour mill that the re-equipment of a large number of mills, even if they were only partially destroyed, would have been an impossible task owing to the urgent need for speed.

"It was considered that the number of mills that might escape destruction or that could be quickly restored to working order would not be enough to feed the liberated peoples, even with an extraction of 85% or more, and it was therefore essential to find some other way of alleviating the food shortage as promptly as possible.

"Leading dieticians were consulted and it was finally decided that the best temporary solution was to provide means of producing on the spot sufficient quantities of well ground 100% wholemeal which could be manufactured with relatively simple equipment."

The British Ministry of Food, having reached that decision, took the problem to Henry Simon, Ltd., flour mill engineers and manufacturers. Designers on that company's staff

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ROLL GRINDING
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Also NEW ROLLS for Sale
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FULL STRENGTH MALTED WHEAT FLOUR
THE STANDARD OF QUALITY FOR THE MILLING INDUSTRY
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Check your flour carefully, reinforce it with our full strength Malted Wheat Flour, and keep the performance of your product uniform.
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Permaflux SPOUT MAGNETS
HAVE DOUBLE GAP!
NIAGARA
That is, TWO strong poles of force over which the material must pass, thereby doubly insuring stopping and holding contaminating metal. Two magnets in one; TWICE THE EFFICIENCY OF SINGLE MAGNETS.
PERMAFLUX magnets are powerful, and stay that way. As an example, it requires a pull of 16 lbs. to release a 1 inch diameter round steel ball adhering to magnetic face.
PERMAFLUX pays dividends by eliminating hazards of explosions and fire due to tramp metal. In addition, savings are realized in costs of damage to machinery and labor time lost in maintenance and repair.

Magnet open for cleaning

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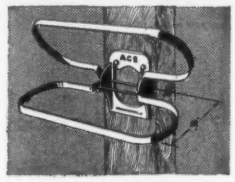
"SEEDBURO Sure Has GOOD EQUIPMENT"

. . . that's what thousands of grain and seed men are saying. The picture at the right shows Mr. J. V. Paulson, operator of the Odebolt Co-op Elevator Company, and Mr. Albert Wentzel, farmer near Early, Iowa, operating the Steinlite Moisture Tester.

The Seedburo line includes over 350 items. All adhere to Government standards where specifications are available. All are precision built, rigidly inspected, fully guaranteed. Write for circulars on items that interest you.

BAG TRUCK

65AR—7" diameter wheels, rubber tires, roller bearings. Frame of tubular steel, all joints welded. 9 inch nose. Handles 48 inches in length. Price $22.00. Other sizes available.



BAG HOLDER

One man can operate. Opening at top is 15 inches long by 6½ inches wide. Weighs only 4½ lbs. When not in use can be folded up and hung out of the way. No. 378, price $3.00.

STEINLITE

The Steinlite one minute moisture tester is fast, accurate, easy to use. Economical to operate. Calibrated against official oven methods. Price $275, f.o.b. Atchison, Kansas.

630 BROOKS BLDG.
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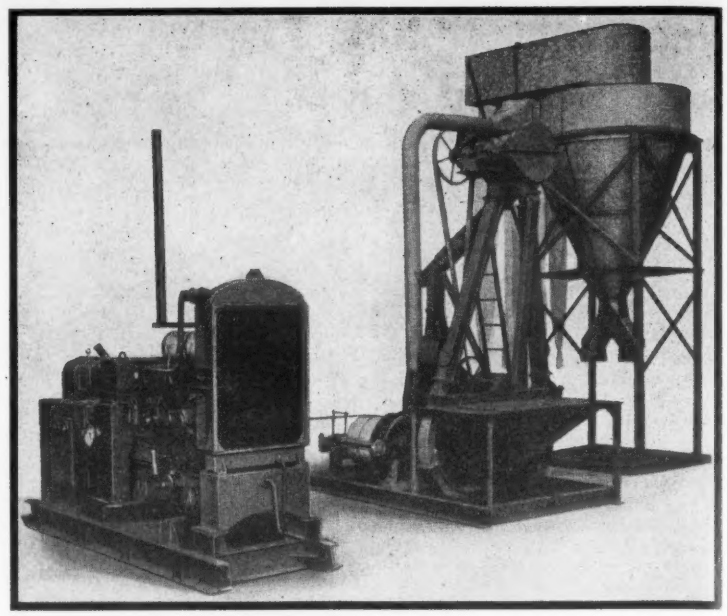
SEEDBURO EQUIPMENT COMPANY



The Standard Portable Mill

designed a standardized emergency plant. The design was approved and the company received an order for a "large number" of the units.

Principal considerations of the main plant were that it should be entirely self-contained and should have its own power and light plant since it was probable that neither power nor electric current would be available in liberated areas. It was also important that the plant be small, compact, simple and easily transportable so that it could be set up and operated by semi-skilled or even unskilled workmen.

A steel bedplate carries the grinder with its vee-drive and the countershaft driven by the power unit. It also carries a steel bin for holding a reserve supply of grain, which is fed from the hopper by an elevator. Feed is regulated by slides and a magnetic separator is provided.

The ground wholemeal is delivered from the grinder to a cyclone collector and is finally sacked off from the collector outlet.

The power unit is a 4-cylinder engine with a power rating of 40 h-p at 1,100 r.p.m. The unit is mounted on a steel bedplate which also serves as the mounting for the small electric generator.

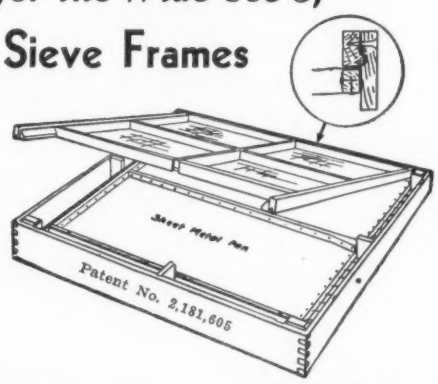
The emergency plant is designed for continuous operation and it is estimated that the plant, operating on a 24-hour per day basis, can produce enough wholemeal for the needs of 50,000 people.

Some Reasons for the Wide Use of

NOR-VELL Sieve Frames

- Increased Bolting Capacity
- Last Longer
- No Joint Wear
- Made to Fit Any Square Sifter
- Immediate Delivery

Ask for Particulars



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THE INDUSTRIAL FUMIGANT CO., INC.
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National Organization. Complete and Up-to-Date Equipment. All Recognized Fumigants.

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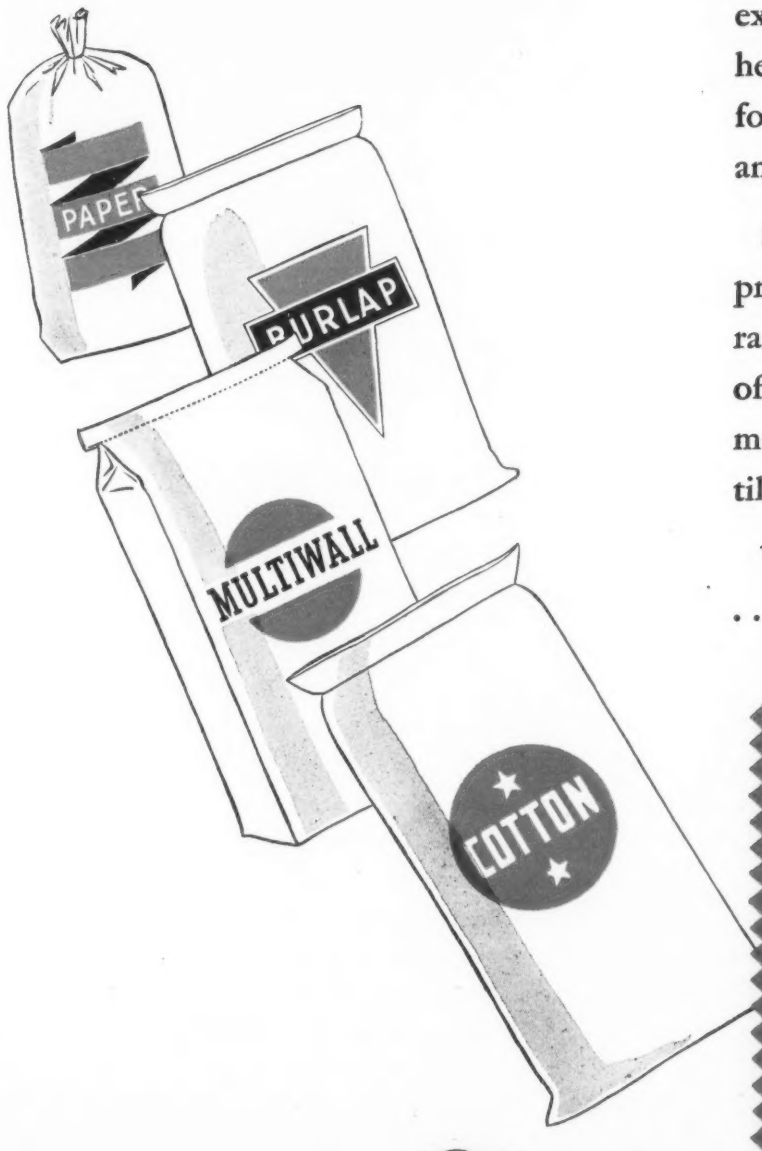
Whatever's the BEST BAG FOR YOUR USE ...we make it!



East Pepperell, Mass.

WHEN you buy your flour bags from Bemis, among the important advantages you enjoy is this: You can buy whatever type is best for your particular use—cotton, paper, multiwall, burlap or waterproof.

Bemis is a leading producer of *all* types of flour bags and consequently has no reason to high-pressure you toward any one type. We have no favorites. If our experienced packaging specialists can help you to determine which is the best for your use, you may be sure that their analysis and advice will be unbiased.

Suppose, for instance, a change in your product or in handling conditions warrants switching from some other type of bag to multiwall paper bags. We make multiwall paper, as well as textile, bags—so your interest is ours, too.

Whatever's the *best bag for your use* . . . we make it.

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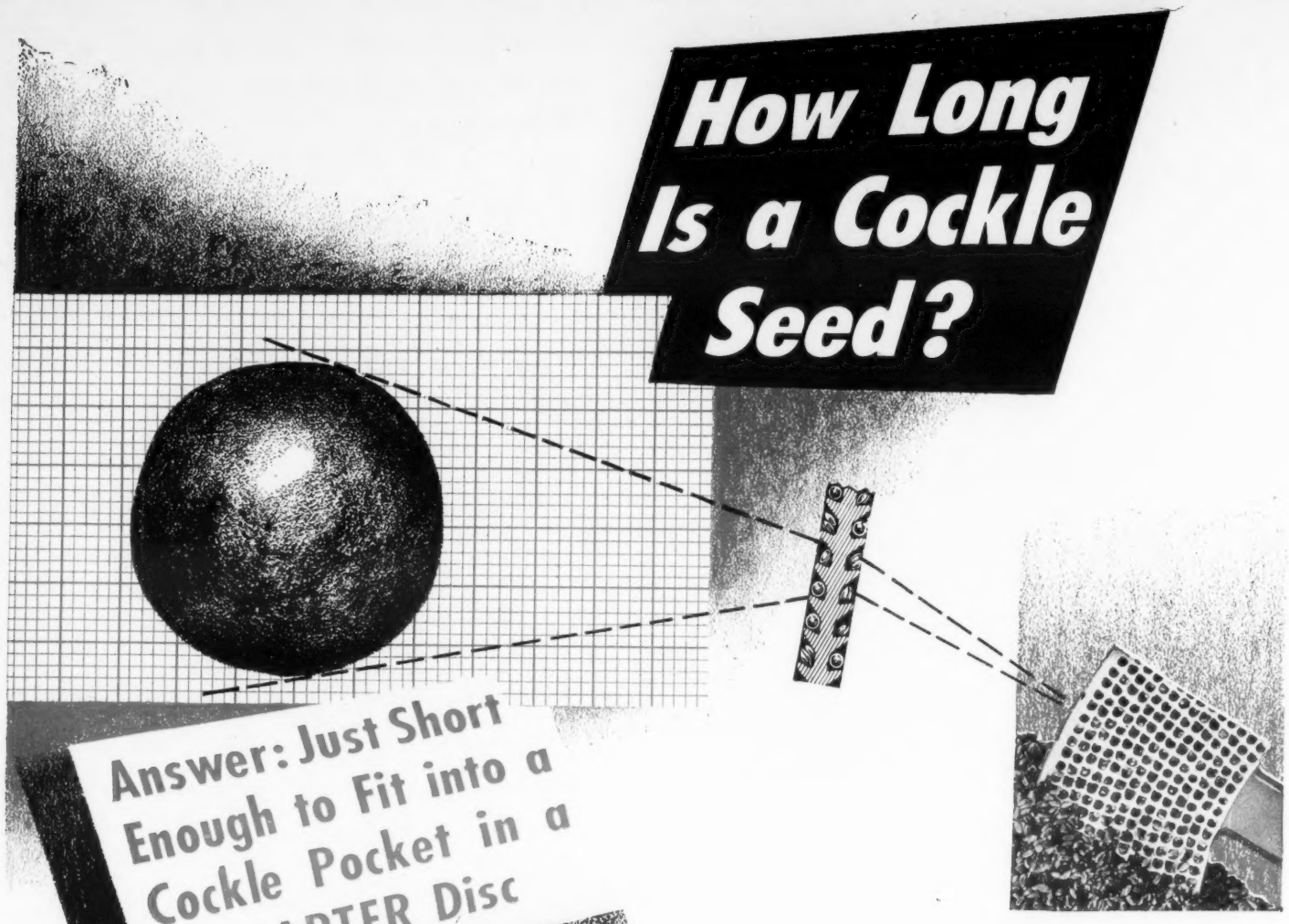
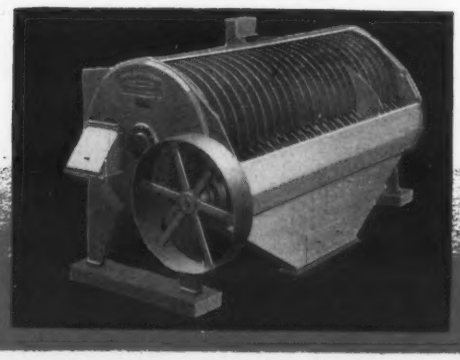
BETTER BAGS SINCE 1858



SHORT or LONG Length Differences Count

That's Why Exact Separations Can Be Made

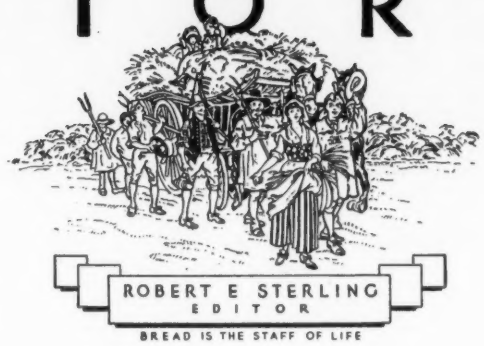
Imagine the job it would be to separate cockle from wheat were it not for the marked difference in the length of the individual seeds and kernels. The diameter of cockle is too nearly the same as that of wheat to permit an accurate separation based on width or thickness. Luckily, Nature made cockle a good deal shorter than wheat. Because the Carter Disc Cockle Machine capitalizes on these length differences—picks up the cockle—leaves the good wheat—it provides the miller with an exceedingly accurate and dependable method of making this very important separation. Carter Disc Separators are built in many sizes, types and capacities for removal of either shorter or longer foreign material from wheat. Use them for cockle removal—and for oat removal—to protect the quality of your flour.



HART-CARTER COMPANY

680 Nineteenth Ave. N. E. Minneapolis, Minn.

EDITORIAL



A MATTER OF TASTE

ANOTHER of mama's little helpers has slipped the baking industry a "hot foot" in the current issue of the Reader's Digest. Headlined "Our Daily Bread—no matter how you slice it, it still isn't fit to eat," the article is a complaint—you guessed it—that today's bakery bread is not as tasty as the bread that mother used to bake. "Mattress stuffing" is the politest term that the choleric and possibly dyspeptic author—a Clarence Woodbury—uses to describe the wholesale loaf.

Peevish outbursts of this kind remind us all of the good old days when youthful appetite and rugged digestion made any meal a feast. We suspect that much of the reputation of mother's bread is based on such nostalgic yearnings. However, Mr. Woodbury prefers a rough textured, heavy, lean and crusty loaf. If that is his preference, he is entitled to it and he can satisfy it, as he admits, at numerous shops of specialty bakers who have made a good living catering to such desires. But to set up his own choice as a standard for the nation's bread eaters is the kind of naive error into which such critics usually stumble.

We have no quarrel with the author's hunger for a lean and compact loaf or his praises of hearth and foreign type breads. We hope he keeps on eating them and plentifully. Our real complaint is with the Reader's Digest which sponsored the author, not only in his statement of his personal opinion on bread characteristics, but also in an unwarranted and splenetic attack on the honesty of wholesale bakers. Much more than an airing of an individual belief about bread, the Reader's Digest article is a sly reviling of the baking industry with charges of deliberate and insincere debasing of its products. Furthermore, the author implies that bakers are gouging the public through high bread prices and cheating the wheat grower by paying him less for his grain. Half-truths, misquoted statistics, incomplete analysis—all contribute to the stealthy Mr. Woodbury's attack on bakers.

If we were disposed to be as critical of the Reader's Digest as its sponsored author is of bakers, we would say that this article is a type of yellow journalism that has lately been cropping out more frequently in that publication, possibly in an effort to maintain circulation through sensationalized distortion. And we might add that the baker's opinion of its taste in selection of articles is no higher than its author's opinion of bread.

• • •

HELPING THEMSELVES

LET us say nothing of the cost in taxes or of the ideological issues involved, but consider for a moment the gratifying gain in national resources that comes from the soil conservation program. Here, obviously, is no boondoggle. It is an accomplishment on the black side of the social and economic ledger, and a permanent addition to the nation's assets.

Some parts of the story, written specially for this journal, are related in the article by A. E. McClymonds, regional conservator, appearing on pages 3a-5a of Section II. Mr. McClymonds tells us that nationally only 10% of the soil conservation job is done, but his recital of what has gone into that small beginning makes it seem large, as it really is. As of Feb. 15, 1945, a total of 1,237 soil conservation districts, covering approximately 686,157,284 acres, had been established in the 45 states which have enacted soil conservation district laws to qualify for federal assistance. These districts include approximately 2,624,498 operating units and 3,197,804 farms. Objectives of the soil conservation agency of the federal government are to help farmers and ranchers, through their local organizations, to "establish permanency in operations through conserving their soil and water resources and adjustments to achieve better use of land and water." The conservation practices include contour farming, terracing, windstrip cropping, soil-conserving crop rotations and stubble-mulch control. They are the antidote for all those agricultural evils popularly summed up—though exaggerated—in the tragic connotations of the "dust bowl."

Beyond the physical gains to be discerned in this movement there is one on the moral side. Soil conservation is being made the farmer's own job. However much of the cost comes out of Uncle Sam's pocket, the initiative, the work and the responsibility belong to the man who owns the soil. Local districts are set up and function only through voluntary farmer-action. The spirit of independence and community enterprise involved in this arrangement does much to offset the less fortunate aspects of government largesse.

• • •

THE SURPLUS OF FARMERS

MORE goods, not higher prices for fewer commodities, make for prosperity and higher standards of living. This we are taught by the professors who have devised for the Association of Land Grant Colleges and Universities a postwar agricultural policy. An account of some of the suggestions of the professorial committee entrusted with this task was published recently in this journal. The suggestions are to be seen in full in a printed report, copies of which are available from any land grant college or university.

The professors, surprisingly enough if you will, are realistic. They give us nothing particularly new in the way of devices. In fact, there is a striking similarity between their recommendations and the planned economies and social betterments prescribed by Henry Wallace. But they are bound by no political inhibitions. They are not for government controls, prices held high by fiat, subsidies, artificial restrictions upon free enterprise, or continued reliance upon emergency expedients. They frown upon group favoritism. Above all else they are prophets of abundance. We quote:

"Limiting output of needed commodities and services inevitably makes us poorer, not richer. Whatever may seem to be its short-term advantages in particular instances, the long-run effect is detrimental. Policies to limit output must be reversed all along the line if we are to attain the high level of living which our resources can provide. . . . If we want to speed up economic momentum, then we must outlaw attempts to hamstring people whether such attempts are made by industry, business, the professions, labor or agriculture. The government must check the action of powerful groups that would restrict economic opportunity, and design public policies to permit maximum initiative and resourcefulness. . . . Government properly should be the guardian of the public interest. It can become so to the fullest extent only if powerful pressure groups are unable to enlist the government as a partner in enforcing their will on the others. One of our most challenging needs is to harness the potential statesmanship among leaders of agriculture, labor and industry so as to co-operate in building a greater society rather than tearing the society asunder."

The professors' realism comes to light most strongly when they get down to such things as foreign trade and agricultural surpluses. Imports alone can support exports. Surpluses of agricultural products are viewed in terms of surplus farmers, and the advice here is to convert them into industry and not stubbornly support them where they are. A farm-to-city movement is normal. The rural birth rate is nearly twice that of urban areas. Increased efficiency in farming tends to make some rural people available for other work, and with the development of technology many processes and services formerly performed by farmers on the farms have been transferred to the cities. It was impossible for Americans to enjoy a high level of living as long as virtually the whole population was needed to produce food; and we can raise our standard of living still further, the professors assure us, as a higher proportion of our people are put to work providing non-agricultural goods and services, leaving only enough in commercial farming to produce abundant food by efficient means.

The realism of the professors does not go so far as to give us precisely the formula for doing these specific things and in general for adjusting abundant national production to profitable markets, but perhaps it is enough for the moment to find them so agreeably and refreshingly disavowing the deceptive political devices and social shibboleths that have succeeded on the whole only in making bad matters worse and permanent solutions more difficult.

• • •

BREAD—WAR AND POSTWAR

DOES GI Joe's apparent preference for army bread foretell anything of the postwar loaf? There is a good deal of trade speculation upon this point, and much of the opinion inclines to a decided "Yes."

According to the war correspondents (just by way of example, turn to what our own correspondent, C. C. Isely, says about this—page 18) service men are eating GI bread with more gusto than any bread they've been fed at home. And they are eating a lot more of it. Without getting into the tangle of formulas and technical comparisons, Joe's loaf is heavier, averaging 21 oz for the familiar 1-lb commercial size. It has a thicker crust and a more pronounced flavor. There is a name for its distinctive characteristic — "beefsteaky." This probably is a modernization of what the old folks called it—"wheaty."

In one theater the army bread ration had to be increased from 7 oz a day to 10. If Joe carries his liking for this loaf home with him, and we humor his war habits, who will make it—mom or the baker man? There are a good many prophecies of a return of bread to the kitchen. Vitality News, General Mills house organ, warns bakers of this. Its editor adds:

"It might even be possible that flavor is going to be the predominating factor in selling bread—flavor, rather than the cake-like refinements of lightness, texture and soft crust. And should that be so, there might also be a marked preference for loaves well-encased in a chewy, flavorful crust. In that case, softness (freshness) will no longer be the asset we make of it now, because a loaf well protected with a substantial crust will be comparatively impervious to drying out as we have come to know it in our current product."

Canadian ★ ★

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Canadian Exporters Pressing for Foreign Exchange Guards

Toronto, Ont.—The Canadian Exporters Association, a body of business men formed in the later war years for the purpose of facilitating external trade when the channels are open again, is pressing for action by the government at Ottawa to extend the period within which exchange will be protected on foreign commitments. At present the limit is 90 days, which is not enough.

The significance of this request is made plain by a resolution recently passed at a meeting of the association and afterwards submitted to the government by A. F. Telfer, general manager. The text reads as follows:

"Resolved that in the interests of developing foreign markets for Canadian exporters that the Dominion government, through the Foreign Exchange Control Board, extend protection for a longer period than the 90 days now in effect, with regard to the forward sale of United States dollars and/or the forward sale of sterling funds representing the proceeds of export shipments to their respective areas; this extended period to be applicable to all goods which cannot be manufactured in, exported from, and payment finalized in Canada within the existing 90-day period. Further, that this protection be extended up to 12 months in accordance with the terms of the arrangements between the exporter and the foreign buyer."

Canadian exporters of flour and other foodstuffs are already receiving many inquiries from private sources abroad for connections of a trading nature. In anticipation, parliament passed an act over a year ago by which banking facilities for the easy transaction of such trade were created and made available to Canadian shippers. It is the desire of the government that every encouragement shall be given to the sale and shipment of Canadian goods abroad. In this particular matter there is reason to expect that the desired change in time limits on documents will be granted.—A. H. B.

Dominion Bureau Expects Carry-over of at Least 300,000,000 Bus Wheat

Winnipeg, Man.—Despite the determined effort being made to move the largest possible amount of wheat into export position, it does not appear probable that the Canadian carry-over on July 31 will be less than 300,000,000 bus, according to the Dominion Bureau of Statistics, in its latest review of the wheat situation.

The prospective combined carry-over in Canada and the United States of 650,000,000 bus, while only moderately below the 671,000,000 bus carried over in 1944, still is the lowest midsummer stock figure since 1940, the bureau said.

Because of near record crops, accumulated wheat reserves increased to more than 1,000,000,000 bus in North America in the summers of 1942 and 1943. The heavy use of wheat for livestock feed and industrial uses in the United States and for feed and export in Canada, had nearly halved these stocks by the close of the 1943-44 crop year.

"Now that domestic requirements are sloping off, the urgent need for bread grains to feed the peoples of liberated Europe promises to cut still further into accumulated reserves," the bureau said. "The principal factor limiting the movement of wheat overseas at the present time is the relative shortage of rail and water transportation facilities."

Should the long time average yield of 16 bus per acre be realized on a seeded Canadian acreage of 21,500,000, as recommended by the last Dominion-provincial conference on agriculture, it would result in a crop of 344,000,000 bus and a probable total supply of at least 650,000,000 bus if a carry-over of 300,000,000 bus of wheat in Canada at the close of the present crop year is realized.

This, the review said, would be sufficient wheat to meet all foreseeable domestic demands and possible exports in 1945-46. The present outlook for winter and spring crops in the United States "adds up to a very favorable chance of the United States harvesting another 1,000,000,000-bu crop this season."

——BREAD IS THE STAFF OF LIFE——

British Technicians Develop Portable Mills for Europe

Vancouver, B. C.—Little flour mills that go skidding about the country to operate wherever there is grain for their grist are being turned out by British technicians to meet emergencies in liberated Europe, according to advices received by the trade here.

Like donkey engines in the Pacific Coast logging areas, they are never unseated from their skids. They travel on flat cars and a resolute tractor, plus block and tackle, can put them pretty much wherever a man wants to go.

They are a broad advance on the primitive upper and nether millstones, but their mechanism is so simple that it can be operated by unskilled labor. They turn out a very good whole wheat flour which is approved by the most scientific technicians.

In so much of Europe where Nazi malice has destroyed everything connected with continued well-being, there is neither machinery nor transportation to restore big flour mills. The little portable mills solve the problem and grain is easier to transport than milled flour if crops have not been provided against starvation.

The midget mills carry on their own decks enough spare parts for a year's operations and all is grist that comes to their rolling pins.

——BREAD IS THE STAFF OF LIFE——

Vancouver Ships Oats, Wheat to Australia; Baled Hay Wanted

Vancouver, B. C.—Continuous shipments of wheat and oats in sacks are being made through this port to Australia where drouth has ruined crops and additional supplies are needed for the allied armies.

Some 25,000 tons of oats are expected to be shipped to Australia, much for human consumption. There is a flow of 6,000 to 7,000 tons of wheat monthly to New Zealand.

The movement would be heavier if tonnage were available and at present all ships sailing from here to the Antipodes are taking quantities of grain in sacks.

Reports from Melbourne indicate arrangements have been completed for United States shipments of 2,000,000 bus (about 50,000 tons) of sorghum grain to feed stock in the drouth areas of Australia. Efforts to buy baled hay for the same purpose are also being made.

——BREAD IS THE STAFF OF LIFE——

SHIP BUILDING IN CANADA MAKES REMARKABLE GAINS

Toronto, Ont.—One industry which has been developed in Canada as a result of the war is that of shipbuilding. The contribution Canada has been making to the number of cargo and naval vessels available for their various uses is an important one. Wartime production and deliveries by Canada's shipyards up to the end of 1944 included 314 cargo ships of 10,000 tons, 31 cargo ships of 4,700 tons, 368 frigates, corvettes and minesweepers.

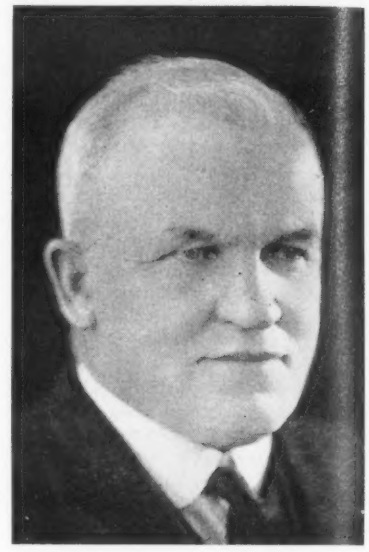
For 1945 Canadian shipyards are to produce for the government 40 cargo ships of 10,000 tons, 12 of 4,700 tons, in addition to transport ferries and various other naval ships. Some Canadian shipyards are also engaged in production of cargo ships for foreign governments as well as a varied assortment of smaller craft.

At present about 50,000 men are employed on new shipbuilding construction in Canada. This compares with an earlier wartime peak of 66,000. Since the start of the war Canada has risen from a position of practically zero in shipbuilding to hold third place among the shipbuilding nations of the world.

A. P. McNAB, WIDELY KNOWN IN MILLING CIRCLES, DIES

Toronto, Ont.—The death of the Hon. A. P. McNab, founder of McNab Flour Mills, Ltd., Humboldt, Sask., at the age of 81, was announced on April 29.

Mr. McNab had not been directly associated with the milling industry for some time, but was always interested in its welfare. He was born on a farm in the Ottawa Valley, but



A. P. McNab

when a young man moved to western Canada where he took up farming, later entering the grain business where he was highly successful. Still later he also engaged in flour milling.

At one time he operated a small flour mill at Saskatoon which was the origin of the present Quaker Oats Co. plant at that point. In 1908 he entered the political field in which he climbed steadily upward until he held the office of lieutenant governor of Saskatchewan. In this capacity he gave splendid leadership and service and the kindness and humanity with which he carried out the duties of this office endeared him to all.

His retirement on Oct. 1, 1944, for reasons of health brought many expressions of regret.

——BREAD IS THE STAFF OF LIFE——

GEO. WESTON, LTD., PLANS POSTWAR MODERNIZATION

Toronto, Ont.—Shareholders of George Weston, Ltd., biscuit manufacturers, Toronto, were informed at the recent annual meeting by the president that an important part of the postwar program will be the repair and modernization of existing plants and machinery, the installation of new machinery where necessary and advisable and the erection of a limited number of new buildings.

A new biscuit plant is planned for the Toronto area to serve Ontario and Quebec. Such expenditure will,

As fine a flour as you will find milled from the finest Turkey wheat in the heart of Kansas in

An Independent Mill

WOLF MILLING CO.
ELLINWOOD, KANSAS

FAMILY PATENTS
White Crest Red Crest
Cake and Pastry Flours
J. C. L.
Sponge Cracker Flour
The J. C. Lysle Milling Company
Leavenworth, Kansas

IT'S BIN AGED
Flour from this mill comes to you fully aged — ready to use
ATKINSON MILLING CO.
MINNEAPOLIS, MINNESOTA

The Moundridge Milling Co.
FAMILY FLOUR — BAKERY FLOUR
CRACKER FLOUR
SPECIALTY PRODUCTS
General Offices: MOUNDRIDGE, KANSAS

Evans Milling Co.
INDIANAPOLIS, IND., U. S. A
Manufacture Kiln-Dried
WHITE CORN PRODUCTS
Capacity, 16,000 Bushels

The Wamego Milling Co.
WAMEGO, KANSAS
Millers of Kansas Hard Wheat Flour
HIGH CLASS BROKERAGE
CONNECTIONS DESIRED

The Williams Bros. Co.
Merchant Millers KENT, OHIO, U. S. A.
Specialists Ohio Winter Wheat Flour
All our wheat is grown on "Western Reserve" and bought from the growers at elevators we own and operate.

of course, be justified only if a reasonable margin of profit can be made on the new investment and this depends largely on the future tax program of the government.

He also stated that the company's production for war purposes has been of goods similar in character to the regular lines ordinarily produced for civilian consumption. Consequently, the company will have no reconversion problems.

——BREAD IS THE STAFF OF LIFE——

ONTARIO WINTER WHEAT ESCAPES FROST DAMAGE

Toronto, Ont.—Although there has been cold weather and frost in Ontario the winter wheat crop seems to have escaped without serious injury, at least so far. It came through the winter in excellent condition and warm weather in March started it off well. However, a cold spell followed and heavy rains have been experienced during the past two weeks, but not enough warmth to bring growth along. The winter wheat area this season is 682,000 acres, as compared with an area of 718,000 acres sown in the previous year. Spring seeding was completed early with the exception of in northern Ontario, where the season is always later. Growth of hay and clover has been retarded and development of newly seeded grains has also been set back by the unfavorable weather.

——BREAD IS THE STAFF OF LIFE——

W. H. COWAN, MAPLE LEAF MANAGER, DIES SUDDENLY

Toronto, Ont.—The sudden passing of W. H. Cowan, manager of the Maple Leaf Milling Co., Ltd., Port Colborne, Ont., while on a business trip to the Pacific Coast, shocked his colleagues and friends in the trade of Ontario. His death occurred on April 28 in Victoria, B. C. He was in his 58th year.

Mr. Cowan had been associated with the Maple Leaf company for 28 years and was manager at Port Colborne for the past 15 years. His genial personality made him extremely popular both inside and outside of his business associations and he will be sadly missed.

He was prominent in social activities of various kinds and was particularly interested in the promotion of sports among the young people of Port Colborne.

BRITISH MINISTRY BUYS FLOUR FOR NORWAY

Toronto, Ont. — The British Ministry of Food has again been in the market for Canadian flour, this time as agents for the government of Norway where supplies of food are badly needed. Although millers were previously swamped with export flour orders they made a special effort to accept this Norwegian business and the quantity was fully booked. There has also been heavy buying of oatmeal recently to be packed in 15-lb tins. Enough business of this kind has been placed to keep Canadian oatmeal mills running steadily for many months. This order will probably be largely for relief purposes.

SUNNY KANSAS

Steady bake-shop habits; pleasant bread personality; a profitable friend . . .

That is SUNNY KANSAS as you know it, or as you will quickly learn to know it when you use it in your bakery.

★

The Wichita Flour Mills Co.
5,000 Sacks Capacity 1,000,000 Bushels Storage
WICHITA : : : KANSAS

Van Dusen Harrington Co.
• *Grain Merchants* •
BUSINESS FOUNDED 1852
MINNEAPOLIS DULUTH

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Members: Kansas City Board of Trade, Chicago Board of Trade

J. F. IMBS MILLING CO. ST. LOUIS, MO.
Millers of Hard and Soft Wheat Flour
DAILY CAPACITY 2,100 BARRELS

Stuffed Straights

FROM THE MANAGING EDITOR'S SIFTER

By Carroll K. Michener

CAR SHORTAGE IS DEEP-ROOTED.—A lot of reasons have been ascribed for the acute car shortage which is crippling industry today, but little has been said about one phase which probably is as responsible as any other. In a bulletin to its customers, the Montana Flour Mills Co. says this: "It is doubtful if the rank and file of Americans realize the extent of the devastation spread over western Europe by the armies of the Allies and by the scorched earth policy of our enemies. Nor do they realize that the effect of this aspect of the European tragedy will surely be felt in lessening the comfort and happiness of all our citizens.

"There has been widespread destruction of European railway lines, locomotives, freight cars, highways and buses. Flour mills, grain elevators and other food processing plants have been ruthlessly bombed and destroyed.

"Commercial chaos prevails in much of the areas recovered from our enemies. People are starving in these areas for want of food, which cannot reach them for lack of cars to ship it from the ports. To relieve the situation, some cars containing wheat, flour, other foods and material are with their contents being loaded upon ships and sent to European ports in large numbers. Old, but usable, locomotives are also going abroad. Congestion due to storms earlier in the winter in eastern sections tied up boxcars on railway sidings and is in part responsible for the existing car shortage, but the need to share American railway equipment, cars, locomotives and buses with the stricken countries of Europe is, we are told, the major cause for the present shortage of boxcars. It will be months, and perhaps years, before the dwindling car supply in this country can again become normal."

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It isn't so easy, the officers of the Millers National Federation find, to get exactly the right man for that job of technical director. As one member of the research committee puts it, he must be more than an average cereal chemist with practical mill production experience, and more than an average production man with a workable knowledge of cereal chemistry.

• • •

BAITING A BIG CO-OPER.—Joseph E. Kelley, a leading citizen of Mt. Vernon, Ind., recently made a speech about co-ops. Not long thereafter a Big Boy from the Co-op world came to town and talked back. He is understood to have told the home folks a committee should be appointed "to wait on" Mr. Kelley, and that he would like to be on that committee. This riled Mr. Kelley, and, far from buttoning him up, it inspired him to hire a full page in the local newspaper, wherein to speak to a wider audience. His piece is pithy and full of red meat. Samples:

"There is no question in the minds of thinking people as to the presence in this country of a nation-wide movement to change our economic structure from a competitive to a socialistic status, a status where the individual ceases to be the source of all power but becomes a mere cog in the great wheel of life, controlled and regimented by dreamers with an insatiable desire for power-power-power.

"These dreamers have a highly organized organization; they are adroit, cunning and ambitious. They have vast resources at their command and their fingers in the till of the taxpayers, one of the largest and best trained, well paid lobbies in Washington and, with their threat that they hold in the palm of their hand the votes of the American farmer and laboring man, they keep the ball rolling and the snowball gets larger and larger and if these dreamers are not checked by making them pay their share of all federal expenses, this movement will consume us and every farmer will lose his identity and every laboring man will become a slave.

"Again, I want to emphasize that I am criticizing one phase only of Co-ops and that is the law that permits them to evade the payment of a federal income tax and thus they automatically become one arm of the movement to socialize this country under a New World Order. I have absolute faith that the good thinking farmers of this country, when they know the facts, can see and understand clearly that it would eventually ruin them and their country.

"I am contending that we need to steer our course in line with the Old Order laid down by our forefathers and the framers of the Constitution under which we have grown and prospered and that Old Order provides for equal rights to all."

"Co-operatives are welcome and no doubt needed in our economic structure but only on an equal basis with any private business and they should support the government which gives them protection so the question resolves itself into one of equality of taxation, and not co-operatives."

"Nature will soon remove me from the scene of action and I would probably be basking today in the sunshine of Florida if I did not feel it the duty of every man to stand at his post and help pay the federal budget until this cruel war is ended."

» »

Nelson Kelley, general manager of the Mount Vernon Milling Co., writes that he has been drafted to help his dad with the enormous correspondence that has flooded in on him in the wake of his published piece on co-ops, for which there have been demands for thousands of reprints. "The fight to get co-ops on the federal tax list is a big one," he says, "and we think every tax paying individual or firm is so vitally involved that he should toss his hat in the ring and get this condition corrected as quickly as possible."

• • •

LOCAL NATIONALS.—By ordering that all trade conventions be postponed this year, to relieve the transportation congestion brought about by the war, the government agencies responsible for the order inadvertently started something which may yet prove to be the best thing that ever happened to the retail baking industry. It has made the rank and file of retailers more conscious of the importance of co-operative effort in solving their individual problems.

Since they cannot meet together on a national scale, the leaders of the Associated Retail Bakers of America hit upon the idea of holding local meetings simultaneously at 100 different points throughout the nation with each of these meetings having identical programs. The conclusions reached and the ideas advanced will then be summarized by the national association, and distributed to every local bakers' group in the country. In this way, retailers from coast to coast will know what their fellow bakers are thinking and how they are meeting the problems confronting them. Through co-operation, they can aid each other over the rough places they necessarily have to travel in these days of shortages in labor and raw materials.

May 9 has been designated Retail Bakers' Day, and the Associated Retail Bakers of America will furnish every local, state and group-state association with a complete convention portfolio. This will contain everything needed to insure a live-wire, interesting and profitable meeting. If carried through as planned, it will really mean that for the first time in the history of the industry, a national convention on a local basis will be held, and every baker can participate without traveling farther than a motor car or bus ride from his own fireside.

• • •

Perhaps we should begin to wonder about the home ec and household hint girls. They all say the way you should slice bread is to lay the loaf on its side. But that isn't the way the wife of the Colorado wheat king did it the other day when her husband, Jesse Powers, was in Minneapolis to receive the fourth annual Philip W. Pillsbury prize. Guests at the luncheon honoring Mr. and Mrs. Powers were served bread made that morning from some of the prize wheat. Asked to whittle a dedicatory slice, Mrs. Powers cut from the top down! And if certain recollections are right, her wheat queen predecessor of the year before did exactly the same thing.

THIS WEEK'S COVER

Here is one of the more interesting of the infinitely varied patterns resulting from strip cropping and contour cultivation. The picture was made from the air over a Texas wheat field. The bands of close-growing vegetation (light areas) on the contour make a protective cover for the soil, while contour-planted row crops form small dams across the slope to hold moisture and top soil. The photo was made for the Soil Conservation Service, some of the work of which is described in an article entitled "Crop Production and Soil Conservation," beginning on page 3a of Section II of this issue of The Northwestern Miller. The author is A. E. McClymonds, regional conservator of the Soil Conservation Service. (Editorial comment on page 21, Section I.)

They also serve
and sell
—who buy WAR BONDS
THE MIGHTY 7th WAR LOAN
BAKERS OF AMERICA! YOUR HELP IS NEEDED!
MAY 14 THROUGH JUNE 30
THIS PLAN PREPARED BY THE AMERICAN INSTITUTE OF BAKING IN COOPERATION WITH THE WAR FINANCE DIVISION UNITED STATES TREASURY DEPARTMENT

BOOKLET—Here is the cover of the American Institute of Baking's special Seventh War Loan Plan for use by bakers, for whom copies are available upon request.

'Third Army' War Bond Drive for Bakers

THE Seventh War Loan Drive, May 14 through June 30, is both a challenge and a patriotic opportunity for the bakers of America, points out Russell W. Varney, chairman of the Industry Relations Committee of the American Institute of Baking. The institute is sponsoring the tested "Third Army" Plan for selling war bonds which enables bakers who contact the public to accept this challenge. The plan has already been tried by one of America's leading bakers and found highly successful in setting up a bakery organization for effective effort in selling war bonds to the public. The baking industry can make an important contribution to victory by following the "Third Army" plan.

The plan stems from the thought that the actual fighting men make up the "First Army." The men and women in war plants make up the "Second Army" and the rest of the folks at home make up the "Third Army." All three must work together for victory. The plan may be varied to fit different organizations and localities, but the fundamentals remain unchanged.

WHEAT KING AND QUEEN GET PILLSBURY TRIBUTE

Minneapolis, Minn. — Mrs. Jesse Powers was acclaimed "wheat queen" at a luncheon here May 3 as Philip W. Pillsbury, head of Pillsbury Mills, Inc., presented his annual award for the best wheat grown in the United States in 1944 to her husband, wheat king Jesse Powers, Henderson, Colo.

Mr. Powers credited his wife with equal responsibility in producing his prize winning red spring wheat, and Mr. Pillsbury honored her by introducing her as wheat queen.

Because the manpower shortage has reduced their help to one man, Mrs. Powers takes an active part in running the 160-acre Powers farm, as well as caring for two small sons.

"That 67-bu yield we had is pretty good for our part of the country," she said.

Mr. Powers is the third consecutive Colorado farmer to win the championship and Pillsbury prize of a handsome trophy, $50 cash award and an all-expense trip to Minneapolis. Mrs. Powers is the first Pillsbury wheat queen. The awards were established by Mr. Pillsbury in 1941 to offer further encouragement to farmers to improve wheat for milling purposes.

Speakers at the luncheon included Dr. C. H. Bailey, dean and director of the department of agriculture, University of Minnesota, discussing "Wheat Improvement and the War," and Prof. Ralph F. Crim, Minnesota extension agronomist and one of the contest judges, who explained how the wheat is judged.

Permit System

(Continued from page 9.)

available that would be regarded as normal under customary circumstances. And it is also noteworthy that the figures quoted above presume that all the wheat could be ground out as is, which is not actually true because of the necessary requirements for different types and grades.

Kansas City Operation

The permit system has worked well in the southwest because virtually enough cars have been coming into the area in the last fortnight and nearly all permit requests have been granted. Movement out of the area has not exceeded the inbound movement of cars and, as the result, demand for grain is beginning to become satisfied. Movement into the permit destination zones is believed to have declined normally.

Millers and grain men are expressing gratitude to the committee which went to Washington, to those who called the Kansas City meeting to instigate the action, and to Senator Clyde Reed of Kansas who has carried the brunt of the fight for grain transportation in Senate hearings and throughout Washington. Most men in the trade are convinced that without this positive collective action the situation would have become virtually hopeless before the government stepped in to improve it. As it stands, enough frieght cars are now coming into the western terminals to handle most necessary movements. Interior mills still are crowded for lack of cars and the CCC has not yet moved a large enough daily load to ports.

To what extent the regulation will slow up grain movement to eastern processors depends largely on boxcar supplies, but it is believed that any processors who can show need for the grain will be able to obtain permits to have it shipped.

Basically the permit system requires that receivers of grain (except in the areas and for the grains which have been exempted) in the destination area must get from the permit agent of the origin area the right to have the grain shipped. Permit agents will supply application forms upon request and application may be made by a consignor, consignee or agent of either. Applications must be supported by a statement showing these facts:

1.—The purpose for which the grain is needed and the necessity for immediate shipment.

2.—The daily rate of consumption based upon the average consumption during the 10 business days prior to the date of the application. If application is made for permits for shipments in excess of such daily rate of consumption, reason for such increase must be stated.

3.—The supply of grain on hand in your plant.

4.—The number of cars of grain on hand or in transit.

5.—The number of cars outstanding on permit which have not been shipped.

6.—The percentage of output going to the armed forces.

7.—Any other pertinent information.

In the Minneapolis market, the information listed as No. 2 above is not required.

When approved by the permit agent the application is given a consecutive number by him and the application becomes a permit to ship the designated grain. The original and one copy will be delivered to the applicant or his agent and the original must be delivered to the carrier's agent at point of origin.

—BREAD IS THE STAFF OF LIFE—

JOINS SHELLABARGER

Kansas City, Mo.—Dr. V. L. Alford, for the last several years nutritionist with the Transit Grain Co., Fort Worth, has joined the Shellabarger Feed Mills, Salina, Kansas, as head of nutritional merchandising activities. He moved to Salina about three weeks ago.

Formula Feed Order

(Continued from page 12.)

Where the manufacturer issued a regular price list during the base year 1942 (months of January, March, May, October, November, December), margins may be determined by deducting from the list price, the ingredient cost from which such price list was prepared; or the ingredient replacement cost at reasonable market value at the time of the calculation of the price list; or the average of such ingredient replacement costs during the effective period of the price list. Margins must be calculated separately for each formula feed priced on the price list and they will represent the margin available to the manufacturer selecting this method under MPR 585.

The new regulation is far more detailed and specific in its provisions than was the old one. For this reason, both the OPA and members of the feed industry believe that it will aid in removing friction between the industry and OPA enforcement officials, which has arisen in several instances because the looseness of some of the provisions of MPR 378 left must to legal interpretation.

The ROBINSON MILLING COMPANY
SALINA, KANSAS
ACCEPTED AMERICAN MEDICAL ASSN

KING'S FLOURS
are Made in Minnesota ... and Nowhere Else
MINNESOTA ... the state that has made MORE FLOUR than any other state in the Union.
MINNESOTA ... the state that makes the BEST FLOUR in the world.
Buy flour that is guaranteed "Made in Minnesota"
H. H. KING FLOUR MILLS COMPANY
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STRATTON GRAIN COMPANY
GRAIN AND FEED MERCHANTS
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MILO ★ KAFIR
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Transit GRAIN COMPANY
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Handling ALL OTHER GRAINS and FIELD SEEDS

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A flour without an equal anywhere
Plain and Self-rising
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FLOURS TO FIT EVERY FORMULA
★ Hard Spring Wheat
★ Hard Winter Wheat
★ 100% Whole Wheat
★ Cake Flours
★ Pastry Flours
A COMPLETE FLOUR SERVICE
RUSSELL-MILLER MILLING CO.
MINNEAPOLIS 1, MINN.
Millers of Occident, American Beauty and Other Bakery Flours

WITH THE ARMED SERVICES

Col. Harold D. LeMar, secretary-treasurer of the P. F. Petersen Baking Co., Omaha, recently spent his first leave at home since he reentered the army in March, 1942. A lawyer by profession, Col. LeMar served in the judge advocate general's department in the invasions of North Africa, Italy and Germany. He is now judge advocate of the Continental advance section with the Sixth army group, and recently has been handling displaced persons of whom there were more than 30,000 in his area when he left Germany in mid-April. Col. LeMar has the distinction of wearing three "v" stripes and five bars on his left sleeve, indicating 23 months in World War I and 30 months of service in this war. He holds the decoration of Commander of the Order of Ouissam Alueite presented him by the Sultan of Morocco for work in relations between the military and the native governments. In Italy from Crown Prince Umberto he received the decoration of the Commander of the Order of the Crown of Italy for similar work. He also wears the Brevet Aviataire Militaire of the French air force from the last war. Recently in Germany he spent a day and a half with his son, **Lt. William LeMar,** they had not seen each other since pre-service days in the United States.

★

Lt. Col. Melvin Krulewitch, of the United States Marines, son of the late **Harry Krulewitch,** New York flour jobber, renewed his old friendships around the New York Produce Exchange during a very brief return to the United States from Iwo Jima where he has been in active fighting for some time. He received news of his father's death while in the midst of an engagement and a few days in New York the week of April 21 was his first opportunity to return. Col. Krulewitch, a veteran of World War I, is well known in the New York trade, and continued his lively interest in flour and baking during his experiences in the Pacific area, where one of the first things done during a fighting lull is to set up a bake oven in the sand, and where fresh doughnuts are baked nearly every day for the forces. Col. Krulewitch has a number of decorations, including the Presidential Unit Citation and Purple Heart.

★

Capt. L. L. Lundgaard, son of **Mr. and Mrs. L. M. Lundgaard** of Kansas City, returned to his home May 3 after a year overseas flying a Mustang fighter in the southern European theater. The young captain, who has been decorated for his gallantry in action, was a flight commander when he finished his missions and was sent back to the states. He will be at home for two or three weeks before he is reassigned. His father is sales manager for Ismert-Hincke Milling Co., Kansas City.

★

Lt. Comm. Totten P. Heffelfinger recently was cited in news dispatches for his work at the Naval Air Station in Hawaii, where he is third officer in charge. The station, it was said, daily handles more transport business than any other in the Pacific, and Lt. Comm. Heffelfinger, who in civil life is vice president of the Van Dusen Harrington Co., Minneapolis, has tremendous responsibility in directing maintenance, housing, sanitation and disciplinary activities at the field.

★

Pfc. John King died recently of wounds suffered in action in Germany. His father, **Lyndon M. King, Sr.,** is vice president and treasurer of Northrup, King & Co., Minneapolis. Mr. King has four other sons serving in the armed forces, Lt. Lyndon M. King, Jr., Ens. William, Fl. Off. Preston and Abbott, S 2/c. A daughter, Helen Elizabeth, is overseas with the Red Cross.

★

Ens. John Mitchell, who for more than a year has been engaged in action in the Mediterranian Sea and other areas, is back in this country and soon is expected back at the home of his parents, **Mr. and Mrs. E. P. Mitchell,** Kansas City. The ensign's father is president of Flour Mills of America, Inc. He does not yet know where he will be stationed after his leave.

★

Former associates at the baking plant of Cote Bros., Inc., Manchester, N. H., have learned that **Arthur E. Perreault,** a former salesman for the concern, is missing in action in the Pacific area, where he was serving as fireman second-class in the U. S. Navy. He came home on leave last Christmas after participating in five major engagements and had a happy meeting with his young son, now 18 months old.

★

Al E. Schultz, who for the past year has been on leave from his job as secretary of the Toledo Board of Trade while serving as yeoman 2nd class in the navy, is back in Toledo on a 30-day leave. He says that he has traveled about 50,000 miles over the Atlantic and Pacific oceans.

★

John Korpal, 38, operator for seven years of the South Side Bakery, Stevens Point, Wis., until he entered the merchant marine, has been reported missing in action on a merchant marine vessel off Italy. He had enlisted in November, 1944, going to sea a month later.

★

Robert H. Rumpel, who covered Wisconsin, Michigan and Milwaukee for a number of years for the Commander Milling Co., is now Lt. Robert H. Rumpel and located at Camp Robinson in Arkansas. He expects to be heading for the South Pacific soon.

★

M/Sgt. Louis E. Melzer, 29, before entering service associated with the Northern Milling Co., Wausau, Wis., was killed in action in Germany, April 12. Before going into Germany he had served in Italy and France. He enlisted in the army in June, 1940.

★

Fred N. Burrall, general sales supervisor for the William Kelly Milling Co., Hutchinson, Kansas, received word that his son, **Sgt. Harrison C. Burrall,** is in a hospital in the Philippines, due to an attack of scarlet fever. Sgt. Burrall is with a bakery unit.

★

Pfc. Faine Ritterhouse, son of **Lester Ritterhouse,** manager of the grain department of the Arnold Milling Co., Sterling, Kansas, was wounded on Okinawa. He is recovering in one of the island hospitals, Mr. and Mrs. Ritterhouse learned.

EACH
BAKING PROBLEM
has its EXACT ANSWER!

It is to the great advantage of the mills we serve and the flour buyers we supply that the product we sell fits exactly the situation.

This we accomplish by studying carefully the needs of the buyer, and placing his flour business in the hands of capable millers who understand his problems.

Our field staff studying these needs and our laboratory constantly checking rarely miss the exact answer for any baking or family flour problem. The volume of business flowing through this organization helps provide answers quickly that otherwise would require months of trial and error.

We solicit your problems.

KELLY-ERICKSON COMPANY
OMAHA, NEBRASKA

—BREAD IS THE STAFF OF LIFE—

MILL PROBLEMS ON AGENDA FOR REGIONAL MEETINGS

Chicago, Ill.—Regional meetings of millers as a substitute for the annual convention of the Millers National Federation, which is not planned this year in accordance with Office of Defense Transportation regulations, are announced for Fort Worth, Texas, on May 9; Wichita, Kansas, May 10; Minneapolis, June 5, and Springfield, Ill., June 7. The following regional millers' association meetings will be held: Oklahoma Millers Association, May 25, Oklahoma City; North Pacific Millers Association, June 12, Portland, Oregon; Michigan Millers Association, June 22, Detroit. Other such meetings are being arranged.

Herman Steen and Herman Fakler of the federation staff will be present at several of these meetings, and one or the other will be at all. C. D. McKenzie, president of the federation, will attend at least two and possibly more of the meetings. Along with other speakers, these federation officers will assist in the discussion of current milling subjects of importance, including the future of government controls, the boxcar situation, uniform package legislation, the encouragement of flour exports, supplying flour to government agencies, enrichment legislation, and the federation's new technical service department.

—BREAD IS THE STAFF OF LIFE—

APPOINTMENTS MADE TO N. W. PERMIT COMMITTEE

Minneapolis, Minn.—Maurice Scroggins, of the Scroggins Grain Co., Minneapolis, has been added to the Northwest permit committee which is advising the permit agent on operation of the ICC order No. 304. Previously, the feed manufacturing industry also was given representation on the committee. George Anderson, Fruen Milling Co., Minneapolis, was appointed to the group, with A. L. Stanchfield, A. L. Stanchfield Co., as his alternate.

Care in Milling
Henkel's
EXTRA FANCY
CAKE FLOURS
Makes them "Easy-to-Handle" in Baking
★
THE HENKEL FLOUR MILLS
DETROIT, MICHIGAN

The Rodney Milling Co.
20,000 CWTS CAPACITY
KANSAS CITY, MISSOURI
"Heart of America" FLOUR
CHICAGO OFFICE:
Kelly Flour Co., 919 N. Michigan Ave.
BOSTON OFFICE:
Seaboard Allied Milling Corporation
1209 Statler Bldg.

HIGH GLUTEN FLOURS
For Bakers
The Morrison Milling Co.
Denton, Texas
Emphatically Independent

HARDESTY MILLING CO.
Quality Millers for Over Half a Century
Domestic and Export DOVER, OHIO

STANDARD MILLING COMPANY
Millers of
• CERESOTA • ARISTOS
BAKERY FLOURS

"DIAMOND D"
A High Grade Baker's Spring Patent
Milled Under Laboratory Control
from Montana Spring Wheat
Sheridan Flouring Mills, Inc.
SHERIDAN, WYOMING

THE WALNUT CREEK MILLING CO.
Millers of Fine, Country-Milled Kansas Wheat Flours
Since 1877
GREAT BEND, KANSAS

Bowersock Mills & Power Co.
LAWRENCE, KANSAS
ZEPHYR FLOUR
AS FINE A BAKING FLOUR AS A BAKER CAN BUY AT ANY PRICE
Established 1874 1,500 BARRELS DAILY

Victor-Champion-Frost King-Headliner
Family Flour De Luxe
THE CRETE MILLS
CRETE, NEB.

Cotton Goods Supply for Bag Trade Continues Decline; Spot Sales Small

New York, N. Y.—The cotton goods supply for the bag trade has continued to decline in the market here over the past week, the withdrawn position of selling houses becoming so complete that doubts are expressed by some buyers that even issuance of the long-awaited M-317A revisions for the current quarter will prompt activity in any proportion to actual needs. With rare and negligible exceptions, there was no movement of cotton goods for bag uses, despite widespread inquiry and a sustained pressure of demand.

The question was raised by some bag men here whether this situation might develop into a parallel of that experienced about a year ago. It is recalled that late in April, 1944, the Worth Street market withdrew completely and held activity solely to spot goods until prices were advanced in the early fall under the Bankhead Amendment that was written into the Stabilization Extension Act in June. Sheeting ceilings were not raised until September, and it was in the first week of that month that selling houses again opened up and sold ahead against nervous demands of bag men.

These observers, however, are unable to account accurately for what might lie behind a similar move at this time. The possibility is viewed, however, that mills are fearful of operating margins at the increase in wages ordered by War Labor Board to a 55c per hour minimum. Specifically in the case of print cloths, prices on which recently were rolled back 1c per lb, production is due for a sharp decline as the costlier third shift operations are dropped.

As it now stands, the bag trade seems to be adequately covered on its needs through June, but there is anxiety expressed over the lack of commitments being accepted for beyond that date. There is general expectation that War Production Board must issue another directive for the third quarter, similar to that put out for the current period, in order to assure supplies of the 38½-inch, 64x56, 5.50-yard print cloth for sugar bag needs. The supply outlook otherwise would be extremely cloudy because of the production squeeze on mills.

Bemis Bro. Bag Co.'s cotton goods index, a composite figure reflecting wholesale prices of principal cotton cloth used in bag making expressed in cents per yard of cloth, is 8.39, as compared with 8.00 a year ago. The Bemis composite figure reflecting duty paid early shipment prices of heavy and lightweight Calcutta burlap expressed in cents per lb of cloth is 17.37, as compared with 17.83 a year ago.

Burlap Market Dull

The burlap market here was featureless during the past week. Arrivals continued satisfactory and withdrawals by the bag trade against WPB certificates were made in adequate volume. Supplies were said to be ample, though a few of the lightweight constructions were a little short under active interest.

Raw jute exports from British India are in a decline, Calcutta reports of the past few days have indicated. Exports during the first half of the current 1944-45 jute year—July 1 to the end of last December—amounted to 431,505 bales, compared to 477,991 bales of the preceding season. The real drop, however, is shown in comparison to 804,892 bales exported in the first part of the 1942-43 season.

The raw jute market here has remained in an idle position. There has been practically no inquiry received by importers, it being evident that needs of spinners continue to be filled from the DSC stockpile.

Reports on pulp supplies for kraft paper over the past few days hold promise of the currently severe supply situation of materials for containers being eased over the long-range future. It was noted that wood pulp stocks in Sweden are continuing to mount, at the end of last year being some 660,000 metric tons, compared to normal, prewar stocks of only 100,000 metric tons. This was cited the result, of course, of limited markets rather than higher output, but was viewed as an encouraging reserve, particularly in light of the recent statement of the War Shipping Administration that Allied shipping will be available promptly after V-E day to move this pulp.

At the same time, domestic supplies have improved. Total wood pulp programed for paper and board during the present second quarter of 1945 amounts to 2,855,000 short tons, an increase over the 2,784,000 tons available in the same quarter last year. While bag and container supplies remain constricted for the present, possibility of an appreciable upswing is seen by the year-end.

—BREAD IS THE STAFF OF LIFE—

STAUDT'S BAKERY SOLD

Raleigh, N. C.—Bell Bakeries, Inc., New York, which operates a number of plants in eastern states, has purchased Staudt's Bakery, Raleigh, a plant which has been operated here for 49 years.

DEATHS

James J. McManus, 60, wholesale baker of Haverhill, Mass., died April 23. He was treasurer of the 20th Century Bakery, Inc., which was established in 1919. He is survived by his widow and a son, **James J. McManus, Jr.,** who is also associated with the baking concern. A brother, **Patrick H. McManus,** is also prominent in the baking business, being associated with the Celect Baking Co., Boston.

Mrs. William T. Voils, wife of the president of the Hunter Milling Co., Wellington, Kansas, died April 30 at the home of her daughter, Mrs. Brook Ballard, Winnetka, Ill., where she had been for the last several months. Surviving are her husband and her daughter, a son, three sisters and one brother. One of the sisters is Mrs. J. H. Carr of Wellington.

Herbert D. Ferguson, 70-year-old owner of the Danish Maid Bakery Co., Los Angeles, died recently. He came to Los Angeles in 1921 from Canada to found the bakery company, which operated retail outlets in supermarket groceries.

Charles E. Foster, 67, operator of the Cascade Bakery, The Dalles, Oregon, since 1930, died of a heart attack at a Portland hospital recently. He operated the Dixie Baking Co., Portland, from 1905 until 1929.

Since 1882
FLOUR
TO
BIG
BO

William J. Ocken

Isaac E. Woodard

WILLIAM J. OCKEN has joined the bakery production service staff of Pillsbury Mills, Inc., Minneapolis, in the special flours department. Mr. Ocken was formerly manager of the bakery of the National Tea Co. in Chicago. He is a former president of the American Society of Bakery Engineers and has held numerous posts in that organization, including for several years the job of supervising the bakery products display at the society's annual meetings.

SLUM CLEARANCE TRUSTEE — Isaac E. Woodard, president of the Acme-Evans Co., Indianapolis, has been named one of five trustees of the newly created Indianapolis Redevelopment Commission which is to carry out a "free enterprise" slum clearance program that has attracted wide attention in the nation as a privately operated plan to replace federal housing. The commission has power to declare an area blighted, to clear it, to replan it and sell the property for parks, low cost housing sections, etc. Long interested in civic affairs, Mr. Woodard also has been active in the American Friends Service Committee, an organization that has done outstanding work on the war refugee problem. A graduate of Earlham College, Richmond, Ind., he is now a trustee of both the college and the college's foundation and is president of the Quaker Hill Foundation, a Quaker center at Richmond.

Mostly Personal

The week's visitors among the New York trade included **A. E. Fairney,** eastern sales manager, Commander-Larabee Milling Co., Minneapolis, and **George A. Utter,** Larabee Flour Mills Co., Kansas City.

●

Paul J. Cardinal, head of the bulk vitamin division for Hoffmann-La Roche, Inc., Nutley, N. J., is the father of another son, Alan David, born to Mrs. Cardinal March 28. The couple now has four boys and four girls.

●

It is too early to become alarmed over the large number of yellow leaves seen in wheat fields, thinks **Clyde Durham,** manager of the Stafford County Flour Mills, Hudson, Kansas. Mr. Durham believes the condition is traceable to the large excess of moisture this spring and lack of proportionate nitrogen. "If this condition continues after a week of good warm, dry weather," he said, "there will be occasion to worry."

●

Edward M. Peek, Pittsburgh representative, Valier & Spies Milling Co., visited company headquarters in St. Louis last week.

●

Gordon B. Wood, vice president and general sales manager for Midland Flour Milling Co., Kansas City, is apparently recovering as well as can be expected from his broken leg suffered about two weeks ago. It was rebroken and reset at Bethany Hospital last week, and since that time appears to be healing correctly.

●

E. P. Mitchell, president, **T. A. O'Sullivan** and **Harold Thompson,** vice presidents of Flour Mills of America, Inc., left early this week for a trip through Kansas and into Oklahoma to inspect the company's properties. They will be in Wichita for the group meeting of millers on May 10.

●

W. E. Albright, Chicago manager for the Commander-Larabee Milling Co., together with **Dwight K. Yerxa, Clarence M. Hardenbergh** and **Thomas L. Brown** of the Minneapolis headquarters staff, are in northern Minnesota for the opening of the trout fishing season.

●

Ray Moran, of the Memphis branch of the Larabee Flour Mills Co., and **W. W. Cavagna,** Cincinnati, southeastern representative of the Centennial Flouring Mills Co., called on Nashville flour blenders, brokers and bakers last week.

●

Mrs. Perry Hayden, 44-year-old wife of the president of the Hayden Flour Mills, Tecumseh, Mich., has been named as the "Michigan Mother of 1945." The selection was made by the American Mothers' Committee of the Golden Rule Foundation. Mother of five children, Mrs. Hayden is a graduate of Michigan State Normal College, Ypsilanti, teaches a Sunday school class and is active in Quaker organizations. Her mother, Mrs. Melinda Comfort, 81, lives with the family.

●

Fred Borries, regional manager of grocery products sales for Pillsbury Mills, Inc., with headquarters at Nashville, and Mrs. Borries are spending two weeks at Sanibel, Fla.

●

E. J. Bermel, Eagle Roller Mill Co. representative in Pittsburgh, spent last week at a hospital, having his tonsils removed.

●

Gordon T. Shaw, grain dealer of Seattle, Wash., was a Minneapolis visitor last week end.

●

Bert H. Lang and **C. B. Schmidt** of the First National Bank in St. Louis visited the grain men and millers in Kansas City last week.

●

C. A. Morton, for 50 years in the grain business in St. Louis, has retired and left last week for his home in California which is on eight acres of land near Orinda, outside of San Francisco. Mr. Morton was head of Morton & Co. for many years until that firm was dissolved about six years ago. He would have been in the grain business 50 years next June 10. His son, **Austin Morton,** is a sales manager for Kansas Flour Mills Co., Kansas City.

●

J. S. Hargett, Oklahoma City, president of the southwestern division of General Mills, Inc., has returned from a tour of inspection of the Oklahoma and Texas wheat belts.

●

A. Chad Ogden, manager of the Chase Bag Co.'s Dallas plant, has just completed a 10-day tour of south Texas. Mr. Ogden reports a bumper oats crop in prospect, most of which will be harvested during the first three weeks of May.

●

Moritz Milburn, president of Centennial Flouring Mills Co., Seattle, called at the Millers National Federation office in Chicago recently on his way home from a two-month business trip to the West Indies, Central and South America.

●

K. R. Almy, traffic manager of the Russell-Miller Milling Co., Minneapolis, was elected a member of the board of directors of the Minneapolis Traffic Club, May 7.

●

C. F. Tillma, Oklahoma City manager for Pillsbury Mills, Inc., has returned from a business trip to Kansas City.

Flour Millers Favor Extension of Reciprocal Trade Agreements

Washington, D. C. — The Millers National Federation and the Flour Millers Exporters Association have filed with the House ways and means committee a statement supporting extension of the reciprocal trade agreements program. Representation is made that reciprocal trade agreements have been helpful in expanding the flour export business from the low point reached in 1933 and can be counted upon to relieve wheat surpluses.

"Our country is faced with a terrific surplus in both wheat and flour," the statement reads. "The only solution is increased world trade. Continuation of the trade agreements program will open to American millers many markets still closed to our flour as a result of retaliation against the Smoot-Hawley Tariff Bill.

The Problem

"During the 10-year period 1935-1944, the United States produced an average of 845,739,000 bus of wheat per year. The American mills ground an average of 488,976,000 bus (this includes export flour). An average of 30,652,000 bus was exported as wheat (7-year average 1935-1941 before lend-lease). Some 50,000,000 bus were used for seed and a small amount for feed. In round figures the United States had a net average surplus of 269,000,000 bus for which there was no market.

"The milling industry needs to operate at capacity to insure the utmost in employment, the maximum utilization of wheat and to make flour available to the American people at the lowest possible price. It can produce 300,000,000 100-lb sacks per year. Prior to the war, it averaged approximately 210,000,000 sacks. It needs outlets for an additional 90,000,000 sacks. Could such markets be developed it would mean the grinding of 211,500,000 more bushels of wheat, thus taking care of most of the wheat surplus problem.

"Continuance of the program will not, in itself, create new markets for 90,000,000 bags of flour. Expansion of the agreements will help, however, just as the agreements have helped in the past.

"American flour exports reached their highest peacetime level in 1929. In that year 26,779,000 100-lb sacks were exported.

"In 1930 the Smoot-Hawley Tariff Bill became effective, although protested by 33 nations. In 1932 the Farm Board came into being and the government started buying wheat at prices higher than world level values. Retaliation and self-sufficiency swept the world and by 1933 American flour exports had dropped to 7,767,000 sacks, a loss of 71% of peak business.

"Actually about 85% of what might be called non-war influenced trade took place in agreement countries. The increase in China, Hongkong, Japan and Kwantung was due to the war in China. The Panama increase was due wholly to the improved economy of the country due to the money spent on the canal in 1939 because of the approaching European war. The Philippine increase was due to increased consumption which was growing in the late thirties.

"Continuance of the Trade Agreements program will permit our government to pursue its policy of the past 10 years which has most definitely been helpful to the milling industry and to the wheat producers of the country.

"Bread is a cheap food in the United States but, unfortunately, this is not true in all countries, due in many cases to tariff barriers which have been erected against American flour. These barriers must be reduced if our foreign trade is to expand."

ARNOLD
...of...
STERLING

Mills and Sells

"Thoro-Bread"
(Diastatically Balanced)

A very fine, strong, altogether uniform and dependable flour

ARNOLD MILLING CO.
STERLING, KANSAS

ROYAL FLUFF-EAT-A

It pays to pick the right cake flour! Average flours really cost more than top quality flours like ROYAL FLUFF-EAT-A, which produces more finished cake per pound of flour. You get a richer, moister, longer-keeping cake with ROYAL FLUFF-EAT-A.

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HIGHEST QUALITY FLOURS PRODUCED
NEW JERSEY FLOUR MILLS CO.
CLIFTON, N. J.
Renown for Our Prompt and Efficient Service
Only 11 Miles from New York City

Western King Flour
Uniform Bakery Flour
MANEY MILLING CO.
Omaha, Neb.

MINER-HILLARD MILLING CO.
WILKES-BARRE, PA.
Manufacturers of
Wheat, Rye, Corn and Buckwheat Flours

MotherHubbard
FOR QUALITY, FLAVOR AND ECONOMY
Flour Hubbard Milling Co.

"Whitewater Flour"
Ground Where the Best Wheat Is Grown
WHITEWATER FLOUR MILLS CO.
Whitewater, Kansas

THE ROSS MILLING CO.
Choice Quality Flour
Plain and Selfrising
OTTAWA KANSAS

MAY WAY MILLS CONTROL BOUGHT BY O. M. STRAUBE

Kansas City, Mo. — Oscar M. Straube and Gilbert L. May have formed a new corporation, the May Way Feed Mills, Inc., purchasing the brand names from May Way Mills, Kansas City, and leasing its plant at Third and Broadway. Mr. Straube is president and principal stockholder, and Mr. Way is vice president and sales manager.

Russell May, who was president of May Way Mills, continues in business as head of the May Milling Co., with its plant at Dodson, Mo., and branches at Grandview and other interior points.

Mr. Straube has spent his entire business life in the feed business, starting in Arkansas and moving to Kansas City with Nutrena Mills, Inc. Until a few months ago he was president of that company.

Gilbert May was vice president and sales manager of May Way Mills, which he started with Russell May, his brother, seven years ago. The brothers are sons of a pioneer feed merchant of the Kansas City area, Nephi May, who for years has been interested in the feed and grain business in Dodson and Independence.

The new company will continue the May Way offices at 303 New York Life Building, Kansas City.

——BREAD IS THE STAFF OF LIFE——

Herman Steen, vice president of the Millers National Federation, was in Minneapolis, May 4, on federation business.

——BREAD IS THE STAFF OF LIFE——

United States Grain Stocks

Commercial stocks of grain in store and afloat at the principal markets of the United States at the close of the week ending April 28, 1945, and April 29, 1944, as reported to the United States Office of Marketing Services (WFA), in bus (000's omitted):

	American		Canadian in bond	
	April 28 1945	April 29 1944	April 28 1945	April 29 1944
Wheat	77,353	123,307	14,938	10,502
Corn	17,884	9,406	...	...
Oats	12,382	6,347	3,703	1,911
Rye	8,974	22,977	46	1,493
Barley	20,637	11,284	1,553	113
Flaxseed	796	4,132	31	506
Soybeans	13,100	10,785	...	...

Stocks of United States grain in store in Canadian markets April 28 (figures for corresponding date a year ago given in parentheses): wheat none (655,000) bus; corn 695,000 (691,000).

Bonded Grain in the United States

Bonded grain in the United States April 28, 1945, in bushels (000's omitted):

	Wheat	Oats	Rye	Barl'y
Baltimore	1,528	..	..	..
Boston	351	..	..	..
Buffalo	6,900	3,086	46	..
Afloat	351	411	..	120
Chicago	116	206	..	..
Duluth	..	..	..	1,433
Fort Worth	61	..	..	..
Lakes	926	562	..	118
New York	859	..	..	..
Afloat	320	..	..	..
Philadelphia	1,761	..	..	..
Totals	13,173	4,265	46	1,671
April 21, 1945	14,153	4,172	85	1,254
April 29, 1944	9,181	1,882	736	319

Millfeed Receipts and Shipments

Receipts and shipments of millfeed at the principal distributing centers for the week ending April 28, in tons, with comparisons:

	Receipts		Shipments	
	1945	1944	1945	1944
Minneapolis	...	...	19,650	23,520
Kansas City	450	275	4,825	3,425
Philadelphia	160	260	...	...
Milwaukee	30	30	4,140	3,840
Week ending May 5—				
Minneapolis	...	...	19,220	22,770
Kansas City	650	275	4,350	3,225
Philadelphia	100	200	...	...
Milwaukee	30	...	4,380	3,330

Flaxseed Receipts, Shipments and Stocks

Receipts, shipments and stocks of flaxseed at principal primary points for the week ended April 28, in thousand bushels, with comparisons:

	Receipts		Shipments		Stocks	
	1945	1944	1945	1944	1945	1944
Minneapolis	89	138	59	27	386	4,235
Duluth	99	11	251	35	274	1,950
Week ending May 5:						
Minneapolis	116	113	20	28	338	1,466
Duluth	121	8	77	262	318	1,696

"KELLY'S FAMOUS" FLOUR

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KANSAS' FAMOUS FLOUR

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THE WM. KELLY MILLING CO.
Capacity 2,500 Barrels HUTCHINSON, KANSAS

"OLD SQUIRE"
Always is good flour. Pays no attention to ups and downs and this and that.
Just always GOOD FLOUR
Moore-Lowry Flour Mills Co.
Board of Trade Bldg. Kansas City, Mo.

American Ace
—A very fine, short, strong patent milled in one of the West's very finest flour mills.
American Flours, Inc.
NEWTON, KANSAS

We specialize in designing and engraving for Millers and the Grain Trade
Holland Engraving Co.
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VANITY FAIR
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"MASTER MILLED" Spring Wheat Flour
CANNON VALLEY MILLING COMPANY
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I-H
QUALITY MILLED FLOURS
Ismert-Hincke Milling Co.
Kansas City, Mo.

"Golden Loaf" That's Our Brand—
The Flour with the Doubt and Trouble left out
TENNANT & HOYT COMPANY
Lake City, Minn.

Gallatin Valley Milling Co.
MONTANA
Flours and Grain
D. R. FISHER, Mgr. BELGRADE, MONT.

Dependable Hard and Soft Wheat Bakery and Family Flours
SAXONY MILLS
ST. LOUIS, MO.
Our 96th Year

KING MIDAS FLOUR
KING MIDAS FLOUR MILLS
Minneapolis, U. S. A.

MARKETS IN DETAIL

U. S. FLOUR MARKETS

THE SOUTHWEST

Kansas City: Continuing demand from the trade is keeping flour sales at a relatively high level, despite the tightness of the situation. Sales reached 50% of capacity last week, compared with 40% the previous week and 36% a year ago.

Most buying is being done either by those who are virtually out of flour or by those who think the governmental buying programs are going to be strong enough to make flour buying difficult for some time to come. Some few buyers are contracting for flour 120 days ahead, cancelable if the subsidy is not extended.

Persistent inquiry from the army, with the privilege to make contracts that will be good regardless of the subsidy status, is causing some additional sales and will result in a large volume of army flour this week, it is expected.

Clears continue firm, offerings still are light and buying steady.

Export business will be good this week as mills book the Cuban buyers for three or more months. However, uncertainty about the domestic subsidy also acts as a deterrent on that business and will keep some mills from quoting ahead of June 30.

Four mills report domestic business active, 5 fair, 2 quiet, 7 slow and 5 dull.

Quotations May 5: established brands family flour $4.15@4.35, bakers short patent $3.30@3.40, standard patent $3.25@3.35, straight grade $3.20@3.30, first clears $2.85@3, second clears $2.40@2.50, low grade $2.30@2.45.

Oklahoma City: Flour sales improved this week and averaged 77%, compared with 45% the previous week and 38% a year ago. Bakers took 82% of the bookings and the family buyers 18%. Operations averaged 78% compared with 85% the previous week and 78% a year ago. There was no change in prices. Quotations, sacks, delivered Oklahoma rate points May 5, hard wheat short patent flour $4@4.50; soft wheat short patent $4@4.50, standard patent $3.60@4, bakers short patent $3.67, bakers standard $3.62.

Omaha: The flour market continues unchanged from the trend of recent weeks. Mills are pushing capacity, and the bulk of orders is going to government and military buyers. With the May subsidy the same as April, that element of the market is smoothed out. The labor situation likewise was quieted by a definite announcement that Omaha will remain in Group 2.

Box cars still are tight. The shipping situation still is not considered favorable to local shippers.

Quotations May 4: family short patent $3.75@3.90, standard patent $3.55, bakers short patent $3.41, high protein clears $3.31, fancy clears $2.75, low grade $2.55.

Wichita: The car situation in the Wichita area was fairly good last week permitting mills to operate from 90 to 100%. The chief handicap was lack of labor and some shortage of sacks and twine is reported. All mills are behind in shipping directions. Sales were unimportant.

Hutchinson: In spite of the obstacle imposed by subsidy uncertainty and improbability of higher prices, some flour buyers are thinking beyond June 30 and quite a few inquiries on deferred shipments have been received in the past week. Some bookings were closed, subject to continuation of the subsidy. Bookings were fairly light as a whole, however. Mills are sold up for May and rapidly approaching that state for June. Directions came freely and sufficient cars were available.

Salina: Demand for flour from the regular trade is quiet. Shipping directions are satisfactory.

Texas: Few mills last week cared to book additional sales to the government agencies and some offerings made to such agencies were not accepted, so that this class of business was a relatively small factor, but improvement in demand for both family and bakers flour resulted in total sales of from 60% to as much as 100% of capacity. Operations continued at maximum capacity. There were no complaints of inability to secure cars for loading. Prices unchanged; quotations May 5: family flour $3.90@4.15, high patent $3.65@3.90, standard bakers, ceiling $3.52, first clears, enriched $3.10@3.25, delivered TCP.

THE NORTHWEST

Minneapolis: General trade inquiry last week was fair to good. Bakers are showing more interest in their July-August requirements, and, since there is no evidence of any strong objections against a continuance of the flour subsidy after June 30, millers are again beginning to take on business for 120-day shipment. A number of 10,000- to 15,000-bag lots were reported sold last week, mostly to New York and New England buyers, with one baker in the market for 50,000 bags. As millers view the situation, if the government refuses to renew the subsidy, bakers will be forced to advance bread prices, and, of course, inflation is not supposed to be in the picture at all. So millers feel they are not taking much of a chance.

The Army was in the market again last week, and some flour was also sold for lend-lease shipment. The Army flour was for May-June shipment, and, according to all reports, spring wheat mills have very little surplus to offer for this shipment. What little they could offer was taken, with Army buyers indicating they must have more, and that they will be in the market again within a few days for later delivery.

Clears of all kinds are wanted, and are bringing relatively high prices. Some of the larger companies are again oversold on these grades.

Bookings by spring wheat companies last week represented about 62% of capacity, compared with 57% a week earlier, and 27% a year ago.

Quotations May 7: established brands family flour, enriched $4.30@4.46, high gluten bakery flours $3.54, bakery short patent $3.44; first patent $3.44, standard patent $3.34, fancy clear $3.24@3.34, first clear $3@3.10, second clear $2.70@2.90, whole wheat $3.30@3.54.

Interior mills, including Duluth: Buying by regular trade was at low ebb last week. No orders of importance were reported, except by those mills that participated in government business. Shipping directions, however, are good, and mills are operating as close to capacity as the car supply will permit. A good demand continues for every pound of feed produced.

THE CENTRAL WEST

Chicago: There was no improvement in flour business last week. Buyers continued to take on moderate-sized lots for fill-in purposes, but toward the end of the week, inquiries were a little more numerous. Distributors are hopeful that this may mean some increased business later. Shipping directions were fairly good. Only scattered sales of family flour were reported, but deliveries continue good. Quotations May 5: spring top patent $3.47@3.57, standard patent $3.37@3.47, first clear $3.10@3.54, second clear $2, family flour $4.51; hard winter short patent $3.47@3.57, 95% patent $3.32@3.47, first clear $2.68@3.02, soft winter short patent $3.45@4.31, standard patent $3.26@4.06, first clear $2.75@3.16.

St. Louis: Local mills report new business as rather light last week. Bookings were for odd cars for here and there for nearby shipment. Mills are busy cleaning up old contracts that they have been unable to move due to lack of cars. However, a slight improvement in shipping equipment is evident, but lack of labor continues. Clears are strong with a good demand, and offerings light. Small bakers are sitting by watching developments, resulting in very few new bookings, other than for immediate requirements. However, jobbers report old contracts are being cleaned up rapidly. Sugar and shortening are difficult to obtain.

Central states mills report no change in the situation. Demand is lighter, with an occasional booking for present wants. Prices are at the ceiling to 5c below.

Quotations May 5: soft wheat patent $3.98, cake flour $4.58, straight $3.74, family short patent $4.29, straight and 95% $4.29, first clear $3.32@3.75; hard wheat bakers patent $3.44, family patent $3.57@3.83, straight and 95% $3.44@3.49, first clear $2.85@3.38; spring wheat patent, straight and 95% $3.44.

Toledo: Aside from government buying, flour business appears to have settled down into routine character. Sales are rather poor for domestic requirements, and mills not pressing for new bookings as they have already as much of a backlog as they can safely handle before new crop. Rate of production seems to be well maintained. With a set-aside of 20% of production for army and lend-lease account, production appears to be limited only by the ability to move stuff. The car situation is about the same, possibly a little improved, with the mills managing to get along and a bit more hopeful of sustained improvement.

Cleveland: Flour jobbers are backing away from the market and only buying what they absolutely need. Business with the baker is exceptionally brisk. It is, however, difficult to make deliveries, owing to the shortage of labor. There were several carlots of flour purchased by bakers this week, mostly emergency flour. Shipping instructions have been very good. High glutens are scarce. Some mills have taken business 5c under ceiling prices and for 60-day shipment. Family flour business continues to be exceedingly slow, since it is impossible for the housewife to obtain enough ingredients to do home baking.

Quotations May 5: spring first patent $3.80@3.90, standard patent $3.70@3.80, first clear $3.30@3.50; hard winter short patent $3.60@3.70, 95% patent $3.50@3.60, first clear $3.10@3.30; soft winter short patent $4.40@4.65, straight $3.60@3.80, first clear $3.10@3.40.

EASTERN STATES

Buffalo: Sales of flour are somewhat improved over preceding weeks, but in general they are replacement of contracts completed by the trade. Some new commitments of volume were made and there were quite a few contracts of a fill-in variety from the larger bakers. The mills are crowded with orders and their operating schedules show a big improvement, due to the better car situation. Clears still are scarce and prices are firm. Problems of labor supply are as acute as ever, but the startling turn in the military situation in Europe has given rise to hope that more manpower will be available in six or eight months.

Quotations cottons: spring first patent $3.80, standard patents $3.70, first clear $3.45; hard winter short patent $3.80, 95% patent $3.70, first clear $3.35; soft winter short patent $3.75, first clear $3.10.

New York: Flour sales reached only a small total volume last week. With no pressure for business from either buyers or sellers, scattered cars to the jobbing trade are all that most offices report. This, according to some, leaves a good accumulation of orders awaiting definite subsidy word. Others have booked ahead, without regard to the possibility of the subsidy not passing and there are, in addition, those whose contracts are automatically extended if the subsidy is continued. Prices on high glutens have broken from ceilings occasionally and the majority of standards are off 5c, but clears from both the Northwest and Southwest are high and firmly priced, and, in some instances, not offered at all. Quotations May 5: spring high glutens $3.90@3.95, standard patents $3.65@3.70, clears $3.45@3.60; southwestern short patents $3.75@3.85, standard patents $3.65@3.70, clears $3.20@3.40; soft winter straights, Pacific coast $3.70@3.77, Pennsylvania $3.65@3.70.

Boston: New flour business is somewhat better, but improvement is only relative in view of previous inactivity. With no change in subsidy rates on hard wheat, there is little incentive for the trade to cover any farther ahead, although lower trading prices on some grades are bringing in a few commitments. In a general way, buyers are not anxious to cover long term needs until the European war is brought to an end, and the effect on the market is recorded. Sales the past week went largely to spring patents which were comparatively more attractive from a price standpoint. Commitments were mostly for minimum carlots for nearby and fill-in needs, although a few larger bookings were reported. Family flour buying is steady, but in light volume. Shipping directions are fair but, in general, the trade has ample supplies on hand and is not pressing for prompt shipments. Mill quotations closed practically unchanged.

Quotations May 5: spring high gluten $3.92@3.97, short patent $3.82@3.87, standard patent $3.72@3.77, first clear $3.42@3.48; southwestern short patent $3.82@3.87, standard patent $3.72@3.77; Texas short patent $3.82@3.87, standard patent $3.72@3.77; soft winter patent $3.75@3.90, straights $3.65@3.75, and clears $3.55@3.65.

Philadelphia: The tone of the flour market is about steady. The May subsidy on wheat ground for flour at 28c a bu, outside of the Pacific coast area, is about in line with trade expectations. Mill asking prices continue to hold around ceilings and only in scattered instances are slight discounts noted. Acceptances are confined to a period of 60 days. Demand is limited, the proximity of V-E day, the bright new crop outlook and gradually improving receipts all contributing to this reserve. Shortages of shortening and sugar also are factors tending to curtail inquiry. Spot flour supplies are fully ample for trade requirements.

Quotations May 5: spring wheat short patent $3.80@3.83, standard patent $3.70@3.73, first spring clear $3.50@3.55; hard winter short patent $3.80@3.83, 95% $3.70@3.73; soft winter straights, nearby $3.35@3.45.

Pittsburgh: Jobbers and bakers are not interested in contracting flour at present. Most mills are asking ceiling prices, although the past week several flour sales were reported at 3 to 5c under the ceiling. Neither bakers nor jobbers see any gain by contracting ahead at present at ceiling prices. There would be more buying if Congress would decide on the subsidy. Jobbers' stocks of family flour are being depleted. Bakery trade still is very good, although the recent cut in sugar for the next quarter is adding up to more trouble for bakers. Spring wheat types for May and June delivery composed the majority of flour sales the past week. Clears still are scarce and firmly priced. Family flour business is extremely quiet. Shipping directions continue brisk. The boxcar situation continues to improve, with deliveries nearer normal. The labor situation has not improved.

Quotations May 5: hard winter bakers short patent $3.77@3.80, straight $3.65@3.70, high gluten $3.90, first clear $3.22; spring bakers short patent $3.75@3.80, standard $3.65@3.70, high gluten straight $3.90, first clear $3.47; soft winter bakers cake flour $4.57, intermediate grade $3.90, straight $3.67, Pacific coast $3.70, family flour $4.10@4.71.

THE SOUTH

Nashville: Local brokers and blenders report that flour business this week has been unusually slow. Mills are not pushing for business inasmuch as most of them are running on government contracts and indicate that as a rule they have more of this kind of business than they are able to produce, due to the scarcity of labor. The boxcar situation has been relieved to some extent, but some mills still are behind on shipments due to this shortage. Some of the blenders indicate that the shortening rationing is one of the reasons for the slow sale of family flour. Bakers are having difficulty securing shortening, even with points, and the 5% reduction in sugar some time ago has cut their production 5% since all bakers had been using syrups and other sugar stretchers for some time. Shipping directions are fair and prices are about steady.

Quotations May 5: soft wheat cake flour $4.59; soft wheat cake flour, not over .41% ash $3.92; cake flour, .41% or more ash $3.69; short patent family $5@5.10, standard patent $4.85@5, straight $4.60@4.85, clear $4.15@4.45.

PACIFIC COAST

Portland: Mills are operating at near capacity in the Pacific Northwest. New flour bookings are light, with mills unwilling to book for distant position in the domestic trade. Heavy flour orders for the govern-

A SUMMARY OF FLOUR QUOTATIONS IN LEADING MARKETS

Week-end flour quotations, per sack (cwt), packed in 100 lbs. (Canadian quotations per bbl of 196 lbs.) All quotations on basis of carload lots, prompt delivery.

	Chicago	Minneapolis	Kansas City	St. Louis	Buffalo	New York	Baltimore	Philadelphia	Boston	Cleveland	†Nashville
Spring first patent	$3.47@ 3.57	$....@ 3.44	$....@....	$....@ 3.44	$....@ 3.80	††$3.90@ 3.95	$....@....	$3.80@ 3.83	$3.82@ 3.87	$3.80@ 3.90	$....@....
Spring standard patent	3.37@ 3.47	....@ 3.34	....@....	....@ 3.44	....@ 3.70	3.65@ 3.70	....@....	3.70@ 3.73	3.72@ 3.77	3.70@ 3.80	....@....
Spring first clear	3.10@ 3.54	3.00@ 3.10	....@....	....@....	....@ 3.45	3.45@ 3.60	....@....	3.50@ 3.55	3.42@ 3.48	3.30@ 3.50	....@....
Hard winter short patent	3.47@ 3.57	....@....	3.30@ 3.40	....@ 3.44	....@ 3.80	3.75@ 3.85	....@....	3.80@ 3.83	3.82@ 3.87	3.60@ 3.70	....@....
Hard winter 95% patent	3.32@ 3.47	....@....	3.25@ 3.35	3.44@ 3.49	....@ 3.70	3.65@ 3.70	....@....	3.70@ 3.73	3.72@ 3.77	3.50@ 3.60	....@....
Hard winter first clear	2.68@ 3.02	....@....	2.85@ 3.00	2.85@ 3.38	....@ 3.35	3.20@ 3.40	....@....	....@....	....@....	3.10@ 3.30	....@....
Soft winter short patent	3.45@ 4.31	....@....	....@....	....@ 3.98	....@ 3.75	....@....	....@....	....@....	3.75@ 3.90	4.40@ 4.65	....@ 4.59
Soft winter straight	3.26@ 4.06	....@....	....@....	....@ 3.74	....@....	3.70@ 3.77	*....@....	*3.35@ 3.45	3.65@ 3.75	3.60@ 3.80	4.60@ 4.85
Soft winter straight (Pac. cst.)	....@....	....@....	....@....	....@....	....@....	3.65@ 3.70	....@....	....@....	....@....	....@....	....@....
Soft winter first clear	2.75@ 3.16	....@....	....@....	3.32@ 3.75	....@ 3.10	....@....	....@....	....@....	3.55@ 3.65	3.10@ 3.40	4.15@ 4.45
Rye flour, white	3.53@ 3.94	3.74@ 3.89	....@....	....@ 4.13	....@ 3.85	3.85@ 4.00	....@....	3.85@ 4.00	....@....	3.75@ 3.85	....@....
Rye flour, dark	2.79@ 3.20	3.14@ 3.29	....@....	....@ 3.63	....@ 3.35	....@....	....@....	....@....	....@....	....@....	....@....
Semolina, No. 1	....@ 3.75	....@ 3.62	....@....	....@ 3.99	....@ 3.98	....@....	....@....	....@ 4.03	....@....	2.70@ 2.90	....@....

	Seattle	S. Francisco	Standard patent—	Seattle	San Francisco
Family patent	$....@....	$....@....	Dakota	$....@....	....@....
Soft winter straight	....@....	....@....	Montana	....@....	....@....
Pastry	....@....	....@....			

	Toronto	**Winnipeg
Spring top patents‡	$....@5.05	$....@ 5.30
Spring second patent¶	....@4.40	....@ 4.80
Spring first clear‡	....@3.30	....@....

	Toronto	**Winnipeg
Spring exports‡	$10.80	....
Ontario 90% patents‡	....	....

*Includes near-by straights. †Nashville prices basis f.o.b. Ohio River points for soft winter wheat flour. **In cottons, Fort William basis. ‡Secondhand cottons. ¶98-lb cottons. §280-lb cottons. ††High glutens.

ment remain to be filled, with prospects of further calls at any time. Mills still are handicapped by the uncertain flow of Montana wheat in this direction.

Quotations May 5: all Montana $3.60, high gluten $3.60, bluestem bakers $3.33, bluestem topping $3.30, cake $3.80, pastry $3.08, pie $3.08, fancy hard wheat clears $3.30, whole wheat 100% $3.30, graham $3, cracked wheat $3.

CANADIAN MARKETS

Toronto-Montreal: Demand for spring wheat flour continues heavy and mills are operating to capacity and are booked up until end of the crop year. Large quantities have been sold for export, the latest orders being for shipment to Norway, which were placed recently by the buying agency of the British Ministry of Food. As the need was urgent Canadian millers squeezed this business in. Domestic requirements do not change greatly and are regularly covered. Prices are unchanged. Quotations May 5: top patents $5.05 bbl, seconds $4.40, bakers $4.30, in 98's cotton, mixed cars, track, Toronto-Montreal freights, add 10c extra where cartage is performed. For export, government regulation flour is quoted at $10.80 per 280 lbs, f.a.s. Atlantic ports, May seaboard, and $10.75 June-July.

Winter wheat flour trade is light with production little better than sufficient to supply buyers' needs in home markets. The scarcity of this wheat is curtailing export sales. Many mills are unable to accept the business offering for this reason. The price is at ceiling levels. Quotations April 28: $5.50 bbl, in secondhand cottons, Montreal freights; for export $6.25 bbl, in cotton bags, Canadian seaboard, plus equalization fee of $1.25 bbl.

Deliveries of winter wheat show no sign of improving. Farmers are busy on their land and much of this grain is being fed. The ceiling price of this grain is not high enough to induce farmers to sell. Quotations May 5: $1.26 bu, Montreal freights, which is equivalent to $1.12@1.14 bu, f.o.b. shipping points, according to freights. This is the ceiling price.

Winnipeg: There was a lull in the export demand for Canadian flour last week, and sales were restricted to minor amounts for the West Indies trade. Domestic business remains on a good scale, and mills see no let-up in their operations for some considerable time. There are indications that the car situation has improved slightly, and that mills in the three prairie provinces are securing a larger number of cars for both the shipment of grain and the out movement of flour. Quotations May 5: top patent springs for delivery between Fort William and the British Columbia boundary, $5.30, cottons; second patents, $4.80; second patents to bakers $4.60.

Vancouver: Domestic hard wheat flour trade in this territory remains steady, with the bulk of sales being made to large bakeries. The small shops are going in more for soft wheat flour for cake and store sales are on a very limited scale.

The export picture remains cloudy and unchanged, the principal obstacles to business being that western mills are booked to capacity with government orders and very little shipping space has yet been made available here.

Hard wheat flour prices are firm at ceiling levels, cash car quotations for 98's cottons being $5.40 for top patents; $5 for bakers patents and $4.90 for Vitamin B.

Soft wheat flour from Ontario mills is in fair supply, with the price to the trade steady at $7.40.

MILLFEED MARKETS

Minneapolis: Although trade reports have it that there is an easier feeling in the market, local millers declare that demand continues insistent and that they still are unable to satisfy their customers' needs, not only for prompt shipment, but for deferred. Production is above normal for this season of the year, but there is no surplus or signs of weakness. Mixed-car buyers are again in evidence, taking a good percentage of each day's output. So far as the Northwest is concerned, there is no accumulation of millfeed, with the market steady and undertone firm. Ceiling: $37.75.

Oklahoma City: There was a good demand for millfeeds and limited supplies. Quotations, burlaps, carloads for southern deliveries: bran, mill run and shorts $1.95 cwt; for northern deliveries: $1.90.

Omaha: Demand continues strong, with the supply stretching to keep pace. The boxcar situation is slightly better. Quotations: ceiling $36.50 ton.

Wichita: The millfeed situation continues tight with every mill declining orders because of inability to fill the requirements of regular customers. Quotations for bran and shorts, basis Kansas City, are quoted at $36.50 ton.

Hutchinson: Strong demand prevailed for spot millfeed offerings and mills were not too interested in booking ahead. For the first time in weeks plenty of cars were available to meet all needs. Quotations continued at ceilings $36.50@37.50, Kansas City basis.

Salina: Demand is exceptionally good with prices steady and supplies considerably less than current needs. Bran and shorts continue to sell at ceiling levels.

Fort Worth: A moderate increase is evident in the volume of bran offerings, while the demand is less urgent. While prices remain at the ceiling, some mills are finding it necessary to make some effort to dispose of their surplus. Shorts, however, are as tight as ever, with practically no carlots available. Quotations: ceiling carlots, wheat bran and grey shorts $42.20, sacked, delivered TCP; in mixed cars $1 ton higher.

Toledo: Demand remains in excess of supplies, with all kinds of millfeed selling readily at ceiling levels of $42.37 ton, f.o.b. Toledo, Ohio.

Cleveland: Conditions show very little change from recent weeks with truckers obtaining the largest volume of feed. However, boxcars are more plentiful, and mills are shipping mixed cars of feed and flour, all at ceiling prices. Quotations: spring bran, hard winter bran, standard middlings, flour middlings, and red dog, all $42.99 ton.

Buffalo: Demand for millfeeds continues heavy, more than seasonably so. While output has improved also, a balance has not yet been struck and the trade rapidly absorbs all shipments on old commitments and new offerings. The trend is firm. Quotations: all varieties $41.55, straight carlots, f.o.b. Buffalo.

Boston: Offerings are light and do not approach trade's requirements, particularly for immediate shipment. Pasturage shows further improvement with continuing rains, and feeders' current needs are not so heavy. Buyers show no inclination to contract for deferred shipment at present prices. Spring bran, midds., mixed feed, red dog $45.67 @46.17 ton.

Philadelphia: Demand is good, while supplies are light. The undertone continues firm. Standard bran, pure spring, hard winter, soft winter, std. midds., flour and red dog, all $44.84@45.34 ton.

Pittsburgh: Millfeed business was brisk, with demand exceeding supply, during the past week and prices on bran, standard middlings and red dog were at the ceilings of $44.85. More straight cars and mixed cars of feed have come into the Tri-State district. Canadian oats still are plentiful. Corn supplies are increasing. Heavy poultry feeding is causing rationing among customers.

Nashville: Demand is not quite as heavy as in the past several weeks. Pastures are in much better condition due to recent rains. Offerings are more plentiful, since mills running on government flour are offering feed more freely. Quotations continue at the ceilings, both bran and shorts are quoted $43.30@44.30 ton, Nashville.

Portland: Mill run, bran, shorts, midds. $36.50 ton.

Ogden: Millfeed trade is steady, with plants operating to capacity. Poultry industry expansion is aiding feed sales. Quotations: red bran and mill run, blended, white and midds. $36.30, carload lots, f.o.b. Ogden. Denver prices: $38 ton, ceiling. California prices: $42.08, carlots, f.o.b. San Francisco, with Los Angeles prices up $1, ceiling.

Toronto-Montreal: Millfeed is much wanted on account of its relative cheapness at ceiling prices. Supplies are always short of demand, although production is at record levels and exports are restricted to less than 5% of output. Quotations: domestic ceiling, bran $29, shorts $30, midds. $33 ton, net cash terms, bags included, mixed or straight cars, Montreal freight basis.

Winnipeg: Demand for all types of millfeed is excellent for shipment to eastern Canada, and for lesser amounts for movement from Alberta mills to British Columbia. Sales in the three prairie provinces are unimportant. Supplies are being readily absorbed and are moving as speedily as transportation facilities will permit. Quotations: Manitoba and Saskatchewan bran $28, shorts $29; Alberta bran $26.50, shorts $26.50; small lots ex-country elevators and warehouses $3 extra.

Vancouver: No reduction is apparent in the heavy domestic demand for millfeed and, while dealers in this territory are getting a fair share of the output of western mills, the amount received is so far below requirements that a strict rationing system is being maintained and is likely to continue for an indefinite period. The advent of spring has had no effect in reducing consumer demand. Cash car quotations: bran $29.80, shorts $30.80, midds. $33.80.

Rye Flour Output

Following is the rye flour output reported to The Northwestern Miller by mills at Chicago, Minneapolis and outside points in the Northwest, in sacks, with comparative figures for the previous weeks:

	Apr. 14	Apr. 21	Apr. 28	May 5
Five mills ...	27,719	33,344	38,399	*33,979

*Four mills.

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Advertisements in this department are 5c per word; minimum charge, $1. (Count six words for signature.) Situation Wanted advertisements will be accepted for 2½c per word, 50c minimum. Display Want Ads $4 per inch per insertion. All Want Ads cash with order.

HELP WANTED

WANTED AT ONCE TWO ALL ROUND millwrights, spouting and machinery installation, about two months' work. Birdsey Flour Mills, Macon, Ga.

WANTED—SECOND MILLER FOR 2,000 cwt. mill, Pacific Northwest. About $65 per week. Address 7308, The Northwestern Miller, Minneapolis 2, Minn.

THE STANDARD MILLING COMPANY has a real opportunity for a topnotch proven flour salesman. Contact The Standard Milling Company, 309 W. Jackson Blvd., Chicago 6, Ill.

SHELLABARGER'S HAVE OPENINGS IN permanent positions—packing and loading foremen, mill elevator foremen, second millers—permanent positions, opportunity for advancement, good pay. The Shellabarger Mills, Salina, Kansas.

WANTED — A YOUNG MAN WITH EXperience for second miller job in 500-bbl soft wheat mill. Position available immediately. Kindly give full information about self, and accompany letter with photograph, if possible. Address 7281, The Northwestern Miller, Minneapolis 2, Minn.

EXPERIENCED BOOKKEEPER WANTED by large western milling and grain company. Must be thoroughly acquainted with flour milling and grain operations. Applications will be held in strictest confidence. Give full details as to experience and qualifications. Address 7286, The Northwestern Miller, Minneapolis 2, Minn.

WANTED PLANT ENGINEER—TO TAKE charge of boiler room—process steam only—electrical, sheet metal, maintenance and service departments in large mill. Please give full information as to experience, ability, etc., in first letter. Some knowledge of milling preferable but not necessary. Good opportunity for the right man. Address 7288, The Northwestern Miller, Minneapolis 2, Minn.

SITUATIONS WANTED

SECOND MILLER WANTS TO MAKE change. Under thirty. Draft exempt. Southwest, West coast, or South America preferred. Address 7303, The Northwestern Miller, Minneapolis 2, Minn.

BUSINESS OPPORTUNITIES

FOR SALE BY OWNER—IN SOUTHERN Michigan, 240 cwt Water Power Flour Mill, 20,000-bu wheat storage, ample corn and oats storage. Very good farming section in thriving small town. To be sold complete, inventory at date of sale. Full particulars on request to interested buyers. Address 7304, The Northwestern Miller, Minneapolis 2, Minn.

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MACHINERY WANTED

WANTED—TWO DOUBLE STANDS 9x30 Nordyke Marmon collar oiler, A-drive rolls. St. Mary's Mill Co., St. Mary's, Mo.

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Wisconsin Rye Flour

for Performance and Satisfaction
Distinctive Quality and Flavor

EXCLUSIVE MILLERS OF RYE FLOUR

GLOBE MILLING CO.
WATERTOWN, WIS.

"WISCONSIN MAKES THE BEST RYE FLOUR"

CONTINENTAL GRAIN CO. MILLING WHEAT FROM EVERY PRODUCING SECTION OF THE UNITED STATES

TERMINAL ELEVATORS		OFFICES		
Chicago	Columbus	New York	Nashville	Peoria
St. Louis	Portland	Chicago	Enid	Galveston
Kansas City	Galveston	Kansas City	Minneapolis	Portland
Omaha	Enid	St. Louis	Davenport	San Francisco
Toledo	Buffalo	Omaha	Buffalo	Vancouver, B. C.
		Columbus		Winnipeg

A 1945
LIST of FLOUR MILLS
IN THE UNITED STATES AND CANADA
IS AVAILABLE!

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SUBSCRIPTION RATES
Including List of Mills

One Year .....$2.00 Three Years $5.00

OATMEAL MARKETS

Toronto-Montreal: These mills have received substantial export orders for tinned oatmeal and are operating to capacity. Domestic trade is light, but normal for this season of the year. Prices are at ceiling levels. Quotations: rolled oats $3.15 bag of 80 lbs. cotton, in mixed cars; oatmeal, in 98-lb jutes, $3.85 bag, f.o.b. Toronto or Montreal.

Winnipeg: Demand for rolled oats and oatmeal has fallen off, and the usual lull during the summer months can be anticipated. Mills are operating only part time and supplies are sufficient to take care of the demand. Quotations: rolled oats, in 80-lb sacks, $3.25 in the three prairie provinces; oatmeal, in 98-lb sacks, 20% over rolled oats.

Minneapolis: Bulk rolled oats were temporarily not quoted on May 7: 20-oz packages $2.65 case, 48-oz packages $2.89.

RYE PRODUCTS

Minneapolis and interior Minnesota: With rye grain at the highest point in 20 years, flour buying to date has been disappointingly light. Big users have displayed little or no concern over the advance, and their bids have consistently been around 25c under mill minimums. Contracts on mill books are being steadily exhausted. Some mills, consequently, have been making a drive for new bookings, and, while a little more business was done last week, it was mostly carlots. Evidently the trade, having "missed the boat," is determined to buy only as needed, and still is unwilling to pay minimum asking prices. Pure white rye flour $3.74@3.89, in cottons, f.o.b. Minneapolis, pure medium $3.64@3.79, pure dark $3.14@3.29.

Portland: Pure dark rye $3.72, medium dark $3.79, Wisconsin pure straight $4.40, Wisconsin white patent $4.57.

Philadelphia: The undertone on rye flour continues irregular. Prices advanced slightly early last week, due largely to the strength in futures. This improvement was afterwards lost under freer offerings and an indifferent demand. White patent $3.85@4.

Pittsburgh: Interest in rye flour is light and sales are light. Bakers and jobbers are buying only for immediate needs and in less than carlots. Shipping directions are good. Deliveries improving. Rye flour, fancy white $3.85@3.95, medium $3.75@3.85.

Cleveland: Sales are few and very limited. The trade is inclined to think the prices are too high and are only buying for immediate needs. Quotations: rye flour, white $3.75@3.85, dark $2.70@2.90.

Chicago: Rye flour demand continued unchanged last week with only scattered sales of smaller lots. Directions were fair. White patent rye $3.53@3.94, medium $3.43@3.84, dark $2.79@3.20.

St. Louis: Prices declined 13c last week. Sales were slow, but shipping directions improved. Pure white flour $4.13, medium $4.03, dark $3.63, rye meal $3.88.

Buffalo: Rye flours are in fair demand. Supplies are adequate. The trend is firm. Quotations, cottons: white $3.85, medium $3.75, dark $3.35.

New York: The rye market is dull with light sales. Quotations: pure white patents $3.85@4.

Western Canada Visible Grain Supply

Visible supply of grain in the western inspection division May 4, 1945, and receipts and shipments during the past week, in bushels (000's omitted):

	Wheat	Durum	Oats	Barley
Fort William and Port Arthur—				
Semi-public terminals	34,427	1,376	13,935	9,549
Private terminals	..	..	39	2
Totals	34,427	1,376	13,974	9,551
Vancouver-New Westminster	16,389	..	317	64
Int. public and semi-public elevators	14,256	..	105	136
Churchill	1,878	..	..	..
Prince Rupert	985	..	..	..
Victoria	956	..	..	..
Totals	68,891	1,376	14,395	9,751
Year ago	47,745	756	8,962	8,770
Receipts during week—				
Ft. Wm.-Pt. Ar.	6,492	154	4,012	435
All other public and semi-public terminals, western div.	309	..	130	8
Totals	6,800	154	4,142	443
Shipments during week—				
Ft. Wm.-Pt. Arthur—				
Lake	6,393	578	1,041	1,187
Rail	4	3	151	108
All other public and semi-public terminals, western div.	370	..	149	22
Totals	6,767	581	1,341	1,617

TOTAL RECEIPTS

Aug. 1, 1944, to May 4, 1945

Ft. Wm.-Pt. Ar.	213,700	5,644	77,361	54,201
All other public and semi-public terminals, western div.	15,536	..	2,243	1,509

TOTAL SHIPMENTS

Aug. 1, 1944, to May 4, 1945

Ft. Wm.-Pt. Ar.	205,455	5,861	79,270	49,777
All other public and semi-public terminals, western div.	10,017	..	1,994	1,645

GRAIN FUTURES—CLOSING PRICES

Closing prices of grain futures at leading markets, in cents per bushel:

WHEAT

	Minneapolis		Chicago		Kansas City		Seattle		Duluth	
	May	July	May	July	May	July	May	July	May	July
May 1	166¼	161	173⅝	163½	162⅛	155	....	....	169⅞	169⅞
May 2	167	160½	173⅜	163¼	162⅜	154½	....	....	169⅞	169⅞
May 3	168	162¼	175¼	165⅜	162¾	156	....	....	169⅞	159⅞
May 4	167¾	162⅝	176	165⅜	163¼	156⅛	....	....	169⅞	169⅞
May 5	167¾	162⅝	175¼	165½	163⅛	156	....	....	169⅞	169⅞
May 7	167⅞	163⅜	175⅝	166¼	163⅝	156¾	....	....	169⅞	169⅞

	CORN						OATS			
	Minneapolis		Chicago		Kansas City		Chicago		Minneapolis	
	May	July	May	July	May	July	May	July	May	July
May 1	....	....	114½	111¾	....	....	65	61	60	57⅞
May 2	....	....	114⅝	111⅝	....	....	65¼	60¼	59⅞	57⅜
May 3	....	....	115	112⅝	....	....	66⅛	61¼	60¾	57⅜
May 4	....	....	115	112¾	....	....	65¾	60¾	61	57⅝
May 5	....	....	115⅛	112½	....	....	65⅜	60⅝	61½	57⅜
May 7	....	....	115⅜	112⅝	....	....	66⅛	61⅜	61⅜	58⅜

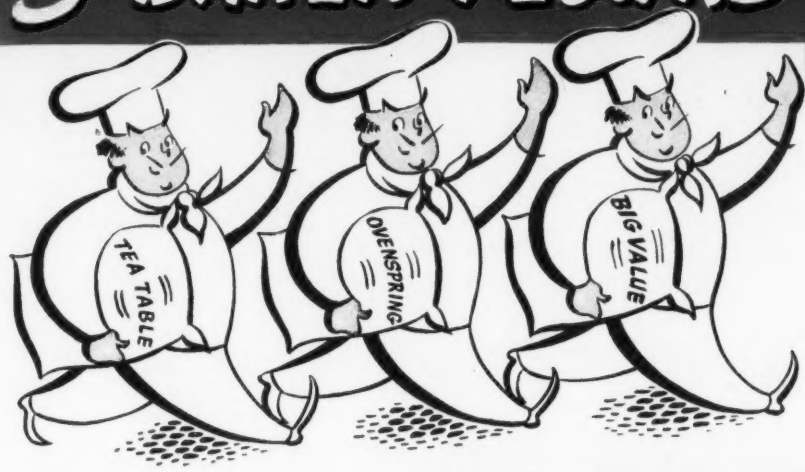
	RYE				FLAXSEED				BARLEY	
	Chicago		Minneapolis		Minneapolis		Duluth		Minneapolis	
	May	July	May	July	May	July	May	July	May	July
May 1	133¾	132	131½	126	310	....	310	....	98	....
May 2	135	132	131¼	125⅞	310	....	310	....	98	....
May 3	136¼	133⅜	133	127	310	....	310	....	98	....
May 4	136⅝	133¾	133⅛	127¼	310	....	310	....	95	....
May 5	137⅞	134⅞	134½	129	310	....	310	....	95	....
May 7	140	137¾	137¼	131	310	....	310	....	95	....

UNITED STATES VISIBLE GRAIN SUPPLY

Visible supply of grain in the United States, as compiled by the secretary of the Chicago Board of Trade, in bushels (000's omitted) of date April 28, and corresponding date of a year ago:

	Wheat		Corn		Oats		Rye		Barley	
	1945	1944	1945	1944	1945	1944	1945	1944	1945	1944
Baltimore	1,859	4,654	565	183	5	26	221	85	3	1
Boston	..	..	..	24	..	..	..	..	..	..
Buffalo	2,463	11,192	1,508	1,047	3,851	2,645	771	3,588	411	932
Afloat	466	602	305	..	..	..	..	..	..	..
Chicago	1,006	8,827	3,369	920	2,564	420	5,514	12,777	1,118	624
Afloat	..	..	..	..	..	..	..	..	..	..
Duluth	7,567	29,306	1,059	3	1,990	789	442	486	6,810	2,021
Fort Worth	4,970	3,389	202	520	250	122	37	25	76	30
Galveston	1,301	2,870	188	..	..	..	..	..	..	..
Hutchinson	7,118	2,121	..	..	..	..	..	..	..	..
Indianapolis	467	1,699	1,360	515	80	73	65	74	..	..
Kansas City	16,196	8,206	2,092	2,028	78	59	298	377	655	81
Milwaukee	284	1,703	131	..	6	2	..	173	3,203	2,965
Minneapolis	7,610	22,345	651	22	730	640	903	4,235	4,466	2,252
New Orleans	612	887	413	33	45	13	..	..	..	..
New York	25	720	100	19	1	..	..	1	..	..
Omaha	4,635	3,587	1,756	1,103	169	83	14	200	343	50
Peoria	..	420	372	67	..	..	..	..	51	106
Philadelphia	248	2,270	207	309	39	33	467	312	..	2
St. Louis	906	2,368	1,038	511	574	47	30	69	143	144
Sioux City	201	228	127	8	28	15	12	44	6	25
St. Joseph	1,391	1,871	1,125	857	662	126	15	13	74	25
Wichita	3,785	1,032	8	11	10	6	..	..	155	8
Lakes	40	707	105	..	..	..	..	..	112	..
Totals	63,150	111,004	16,681	8,180	11,082	5,099	8,789	22,459	17,626	9,266

3 BAKER FLOURS



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FLOUR MILLING CAPACITY 9500 BBLS DAILY • ROLLED OATS AND OATMEAL 400 BBLS DAILY

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Overlooking the mighty Saskatchewan River near the site of the original Fort Edmonton, Alberta's Legislative Building is one of Canada's finest.

Alberta, whose fertile plains and magnificent heavily-forested foothills reach to the majestic grandeur of the snowcapped Canadian Rockies, covers 255,000 square miles. Primarily agricultural, Alberta is gaining an important place in industrial production. Rich oil deposits, unlimited water power resources and coal beds combined with the production of valuable minerals in the Mackenzie Basin, hold promise for future development and prosperity.

Beautiful lakes, clear running streams teeming with fish and vast forest reserves abounding in big game, make Alberta a paradise for vacationists. Her strategic position on the air routes of the world offer post-war potentialities.

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OLDEST ESTABLISHED MANUFACTURERS OF

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Factories—MONTREAL - TORONTO

The CANADIAN BAG CO., Limited

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JUTE BAGS COTTON

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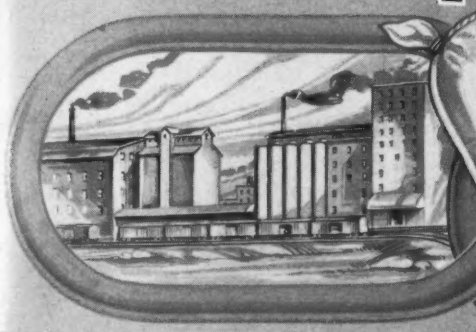

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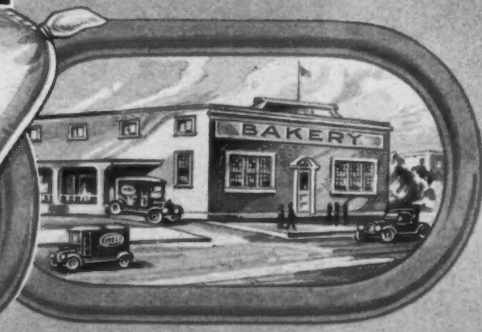

WOODS MANUFACTURING CO., LTD.

MONTREAL - TORONTO - WINNIPEG

Food Plans

(Continued from page 4.)

"Supporters of brown bread now realize that wholemeal is not generally popular, that it contains a high proportion of indigestible material and may increase the tendency to rickets on account of its high content of phytic acid. The supporters of white flour are aware that low extraction leads to a low content of certain vitamins in flour. The main argument now has shifted to a discussion of the merits of 85% 'near white' flour and 75% white flour 'enriched' with vitamins and materials."

Dr. Kent-Jones said he thought America's experience had shown that white flour is generally preferred to wholemeal. He pleaded for the maintenance of a realistic and scientific attitude among nutrition experts, adding:

"If high extraction flour is thought to contain a number of unknown vitamins, it may equally well be argued to contain possibly some unknown 'phytic acids' deleterious to health."

—BREAD IS THE STAFF OF LIFE—

BRITAIN'S FOOD SUBSIDIES

London, Eng. — In Parliament, in answer to a member's question, the Chancellor of the Exchequer stated that the amount paid by British government in subsidies on foodstuffs was at the rate of $1,090,000,000 per annum as on Jan. 16, 1945. Since then, as shown by a further question in Parliament, the estimate of the current cost of the food subsidies—which is revised monthly—has risen to $1,125,000,000. The higher figure, it was stated, is due to the increased cost of sugar, tea, milk, cereals and eggs. Of this total sum, $325,000,000 per annum is provided for bread, flour and oatmeal and the amount assigned for bread is approximately $175,000,000.

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"BLOSSOM *of* CANADA" "YORK" "NORDIC"
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Kipp-Kelly Rotary Granulators
Standard the world over for cutting small grains, wheat, hulled oats, etc.
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Members: Toronto Board of Trade
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Flour. Feed. Seed Grain. Screenings.
Our Specialty: Alfalfa Meal
TORONTO 1, CANADA

The St. Lawrence Flour Mills Co., Ltd.
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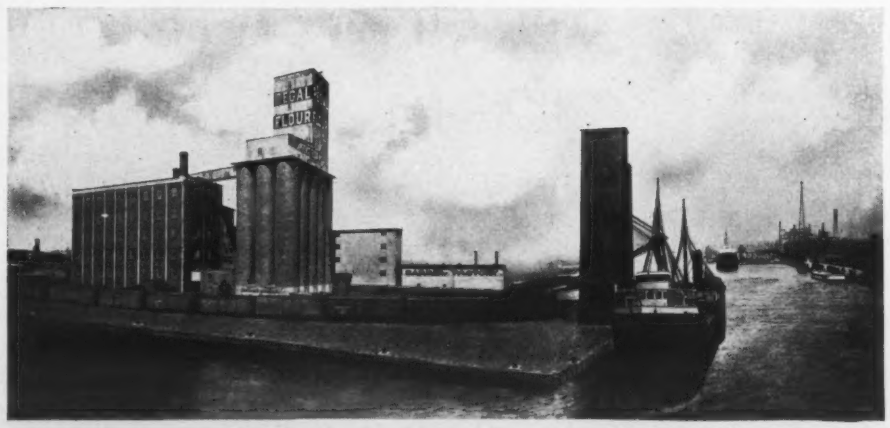

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CANADA'S BEST FLOUR from the WORLD'S FINEST WHEAT
WHEAT THAT IS *Carefully* SELECTED, *Correctly* BLENDED
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GLENORA FAMOUS
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MONTREAL FORT WILLIAM
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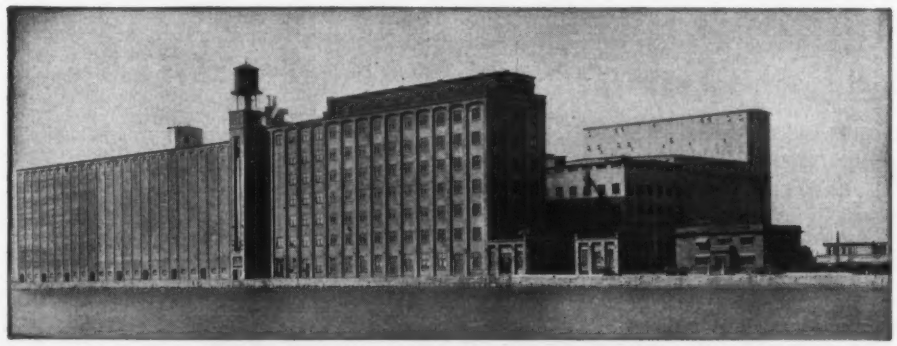
MEDICINE HAT

CANADA'S LARGEST FLOUR EXPORTERS

Head Office— Toronto, Ontario



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Maple Leaf Milling Co. Limited.

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CAR-LOAD
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Any Where
Any Time

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GRAIN MERCHANTS
Milling Wheat and Coarse Grains
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GEORGE URBAN MILLING CO., Buffalo, N. Y.

RED WING FLOUR
Milled in Minnesota for Over 40 Years
THE RED WING MILLING CO., Red Wing, Minn.

GRIST OF GRINS

A visitor desired to inspect the town's finest restaurant, but he did not want to eat there because of the charges. He went in, got a glass of water, and started to saunter out. The manager who had been watching, stopped him:

Manager (demanding): How does it happen that you come in here, order a glass of water, drink it, and then calmly walk out?

Visitor: For gosh sakes! On one glass of water should I stagger out?

◆ ◆ ◆

Lady: You look strong enough to work and earn your living.

Tramp: Yes, ma'am, and you look beautiful enough to go on the stage. But we both prefer to lead a quiet life.

◆ ◆ ◆

Attorney: Please tell the court what gear you were in at the time of the accident.

Lady: I had on a blue costume, a white hat, and tan shoes.

◆ ◆ ◆

Small Boy: Lions have big appetites, haven't they, daddy?

Daddy: Yes, sonny.

Small Boy: They'd be sure to go for the biggest piece of meat, wouldn't they?

Daddy: Certainly.

Small Boy: I'm not a bit afraid of lions while you are with me, daddy.

◆ ◆ ◆

The vocalist at a camp concert seemed to have an endless repertoire. The fact that his voice was obviously beginning to grate on the audience did not deter him in the least.

At last, one exasperated listener shouted:

Listener: Hi, d'you know "The Long, Long Trail"?

Vocalist (proudly): Why, yes. Shall I sing it?

Listener (quickly): No, hit it!

◆ ◆ ◆

Instructor (examining class): Who drove the Israelites out of Egypt? You (pointing to a boy in the corner).

Boy (trembling): 'Twasn't me, sir. I only came back from the country last week.

◆ ◆ ◆

Doctor (to the man with frazzled nerves): The thing for you to do is to stop thinking about yourself—to bury yourself in your work.

Patient: Gash! And me a concrete mixer.

◆ ◆ ◆

Little Mary had told her mother that there was a big red bear in the orchard. "Now, Mary," said the mother, "you know well enough there is no bear out there, and you had better go right into the closet and ask God to forgive you."

Mary did as she was told and soon came out smiling and said, "Mother, it's all right; God said He thought that calf was a bear, too, the first time He saw it."

An EXTRA HOUR OF DOUGH STABILITY WITH WISDOM DIA-GLUTEN FLOUR

A new development which greatly extends fermentation tolerance. Provides more time for "cutting over" or giving dough extra punches. If you want a flour which will stand abuse, write or wire

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1521 N. 16th St. OMAHA, NEBRASKA

WHITEGOLD
(Standard Patent)
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